FEBRUARY 19, 1944

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Railway Age

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Improvements on the Pennsylvania Expedite War Traffic ***388***

This is the first of two articles dealing with a $20,000,000 construction program on the St. Louis-Indianapolis-Columbus line, and in other parts of the Western region. Improvements, which have extended throughout three states, and have involved new double track, sidings, yard tracks, and C. T. C. installations, will enable the railroad to handle this year's predicted 10 to 15 per cent increase in traffic.

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★

PRINTED IN U. S. A.

from yard office to engine cab expedite yard traffic!

BECAUSE the system permits the yardmaster or hump conductor to give directions with as much completeness and detail as conditions require, and because of the quick response of the engineman to such "person-to-person" instructions, "Union" Yard Communication has proved indispensable in helping to obtain maximum operating efficiency in many yards.

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The Week at a Glance

HELP!: Because the railroads have done so much with so little in the way of materials, while suffering from unremitting loss of experienced help to the armed services—officials of Selective Service seem to believe that there is no terminal at which this process will finally have to come to rest, if a railroad break-down is to be forestalled. An editorial herein dwells on the dangers to safety in too-extended reliance on inexperienced labor. A report in our news pages tells of advertising being done by the Boston & Maine to explain that railroad men of military age are not "slackers", but are serving their country precisely where their efforts will count the most in winning the war.

●

P. R. R. ST. LOUIS LINE: From Columbus to Indianapolis and St. Louis the Pennsylvania has made $7 millions of capacity-increasing improvements which are described in an illustrated article, the first installment of which appears in this issue. The work has consisted primarily in the doubling of busy single track sections, widespread use of c. t. c., the lengthening of passing tracks, and some terminal improvements; and has been carried out with minimum interference to exceptionally heavy traffic.

●

MATERIALS FOR CARS: Carbon and alloy steels and aluminum alloys are the only metals being used in car construction in 1944—but 1945 may bring a longer list. So says a.c.f. Engineering Vice-President Campbell in a paper published in this issue, in which he gives relative costs of alternative materials as 2.1 cents per lb. for carbon steel, 3.2 cents for a popular alloy steel, 20 cents for aluminum alloy of the requisite strength, and 40 cents for stainless steel. Magnesium alloys' cost may be as low as 25 cents, while plastics will range from 45 to 100. Mr. Campbell discusses the physical characteristics of these materials and then examines the various aspects of tomorrow's car, speculating how each of the new materials—plus economic considerations—may be applied.

●

DIESEL UPKEEP COSTS: One of the imponderables in gaging the relative efficiency of steam and Diesel power has been the lack of figures from experience on what the cost of maintaining the Diesels was going ultimately to be. Final information is still not to be had, but the New Haven has some interesting data by way of an "interim report"—these being given and discussed in an editorial herein.

●

SUPPLY INDUSTRY'S JOB: Revelle Brown, Lehigh Valley president, told the New York Railroad Club this week that the railroads must look to their suppliers for great effort and ingenuity to improve their products and their prices. Shippers are well disposed to the railroads, but, regardless of such sentiments, their own competition will force them to give their traffic to the agency which gives them the most for the least. The railroads' rivals are busily engaged in bettering their products for the post-war search for customers. These obvious conditions lead to the equally obvious conclusion that the railroads and their suppliers must bestir themselves as never before in order to hold or advance their share in the transport market. This suggestive address appears in abstract herein.

●

WAGE RISE DISCOUNTED: When wage increases were under discussion last year, the railroads began making tentative charges to their expense accounts to protect themselves against retroactive agreements. They did a pretty thorough job of it—so reports the monthly statistical review of the I. C. C.'s Bureau of Economics and Statistics, abstracted in our news pages herewith. That is to say, despite the fact that the increases were greater than could have been well anticipated, nevertheless 1943's net railway operating income would have been less than $58 millions under the $1,362 millions actually reported, if the increases had been in effect for the entire year.

●

YARD MOTIVE POWER: Almost 18 per cent of locomotive-hours in yard switching were performed by Diesel-electric locomotives last November, compared to less than 10 per cent in November, 1940. Attention is directed to this significant shift in the monthly statistical statement of the I. C. C.'s Bureau of Economics and Statistics, reviewed in the news pages in this issue. The ratio of the coal-burning steam locomotive's performance to the total of this work declined in the three years from 78 per cent to 70 per cent. On the other hand, the steam engines on the job worked longer hours per day—11.2 in November, 1943, compared to 9.4 three years previously. Internal combustion yard locomotives put in 19.3 hours per day last November.

●

KICK AT CLASS CHARGES: Uniform freight classification—loudly insisted upon by the social reformers and politicians who discourse with such plausibility and show of learning on the abstract theory of rates—has found few friends when reduced to concrete terms in an I. C. C. examiner's report. February 15 was the "deadline" for the filing of exceptions to this report and, as the account in our news pages reveals, the complaints are plentiful.

●

SHASTA DIVISION: Operations of the Southern Pacific's busy central connecting link in its nationally-vital all-rail route between the northern and southern Pacific Coast regions are described in an article herein, by our transportation editor. Grades of two and three per cent, necessitating as many as four helper engines; snow; high wind velocities; cramped space for terminals; a constant fight against flooded mountain streams—add all these conditions to an enormous increase in traffic, and the result is a job which it takes real railroading to do. The fact that operating performance on this division has actually improved under such conditions (i.e., reduction in 16-hour law tie-ups) suggests what is being done.

FAR vs. NEAR GRAIN: When both grain and transportation are scarce, and the latter scarcer than the former, sensible handling calls for movement from the nearer origins first, more distant sources later. This is the reasoning with regard to present movement of grain out of Canada which Senator Clyde Reed follows—subscribing therein to the opinion of Commissioner Johnson. The Senator deems the personnel of the War Food Administration and the Commodity Credit Corporation who are dealing with this situation as without rivals for sheer stupidity. He gives the bureaucrats until March 15th to rectify their mistakes, promising to deal with them by legislation. The report in our news pages reveals that the number of grain cars sent to Canada daily is now 100.

●

MONEY FOR CANALS: The Army Engineers, with a canal project on foot for which they have no appropriation, have in a few instances succeeded in inducing the Budget Bureau to allot them the needed funds from unexpended balances on other appropriations, this being "tantamount to turning over authority to appropriate to the Bureau of the Budget," and giving Congress the run-around. This condition was brought out at the questioning of Major General Reybold, the Army Engineers' chief, by the House appropriations committee.

●

AN UNPOPULAR SCIENCE: With all the public worship of "science", and the popular dogma that the process is headed straight toward making everybody gadget-rich, it is paradoxical that the science which actually deals with the maximization of wealth and income is so little understood; and, in fact, is distastefully avoided. Yet "science" (of the popular variety, i. e., technology) cannot by itself add one iota to human well-being. That is, its fruits may be diverted from improving living standards and, instead, be frittered away on pyramids (as in ancient Egypt), on competitive armaments (as in pre-war Germany, Russia and Japan) or on dams and ditches (as in the U. S. A.) The leading editorial invites attention to some primary precepts of this "dismal science"—now widely violated—persistent disobedience of which will effectively forestall the begadgetted future now dangled before the popular imagination.

●

CAR ORDERS INADEQUATE: The railroads have not yet placed sufficient orders for freight cars to keep available production facilities busy during the third quarter of this year. So says the O. D. T., as reported in our news pages. Moreover, "the same considerations apply to the fourth quarter."

●

WE HEARD DIFFERENT: Railroads are importing "Mexicans and Puerto Ricans beyond their needs" for additional help—such is the assertion of the Maintenance of Way Union, as reported in the esteemed columns "Labor" of February 12.

What's the Answer

(With acknowledgment to Railway Signaling)

SUBJECT:

Conserving Wires and Cables

QUESTION:

"What methods, of either a permanent or temporary nature, can be instituted at this time as a means of extending the useful life of existing insulated wires and cables in signal service?"

Items for Consideration

By F. J. WHITE
Electrical Engineer, The Okonite Company, New York

An answer to the above question will necessarily have to include not only existing installations, but also the handling of cable in renewals and in storage.

The majority of the cables used in signal work are rubber insulated and, as is well known, the aging of rubber is accelerated by exposure to light and heat. Therefore, cables should preferably be installed in such a manner as to keep them out of the direct rays of the sun and in as cool a location as possible. On existing work, moving or shielding them, if at all practicable, is well worthwhile and will unquestionably increase their life.

In buildings, cables should be kept away from boilers, steam pipes or other hot locations, or means should be provided for cooling the air surrounding them. If this is impossible, some of the special types of heat-resistant insulations can be used, but even these are adversely affected by high temperatures, as is also the current carrying capacity of all types.

Sheaths and fibrous coverings should be repaired as soon as the damage is noticed. Outer braids on aerial cables should be painted when the outside surface has obviously dried out. Wherever braids, fibrous coverings or tapes have rotted, they should be covered with tape and paint. Do not nick the insulation at the ends for identification purposes—use tags! Also protect exposed rubber insulation at terminal boards with stockings or tape, but do not use cord, because it cuts into the insulation. It should be noted that rubber, protected by a suitable synthetic compound, does not need such protection.

Periodic inspections of terminal boards and boxes should be made to see that water or other injurious material is not present. Care should be taken to see that cables are not subject to chemical and oil drippings. Periodic megger tests will indicate weak points, which should be traced and eliminated wherever possible. It cannot be too strongly stressed that, to obtain the longest life out of cable, the greatest possible care should be used in installing, splicing and terminating.

The care of wires and cables in replacement stock is very important. They should be stored under cover, off the ground, in as dark and cool (not cold) a place as possible and protected from falling objects. Cool, dark storage reduces the natural aging to a minimum, especially of rubber insulated cables. Careful storage protects cable and reels or other packing from deterioration.

Reels represent an investment by the customer, which cannot be recovered if deteriorated. Rotted reels may collapse during installation and cause serious damage to the cables thereon. Do not remove the lagging from reels until absolutely necessary. If lagging has to be removed or replaced, be certain that loose nails do not drop into reel between turns of cable or be driven into reel at an angle so that they protrude inside and possibly puncture the cable. Always tape up or otherwise seal the ends of cables after a cut has been made. Prevent damage to cables either mechanically or otherwise before actual installation. All of this simply sums up in the thought that if you are kind to your cables, they will show their appreciation in longer life.

A word here about the necessity of conserving all essential materials would not be out of place. Short pieces of multiple-conductor cable can easily have their outer braids cut off, and the individual insulated conductors used for various purposes. It might be well worth-while to splice odd lengths of cable that are not too short.

All of the copper, lead, and rubber compound from old cables should be reclaimed so that this material can be processed for other purposes. Rubber compound can be removed from wire by running through crushing rolls. Old lead sheath can easily be removed and used for many shop purposes. While all this might seem very obvious, no opportunity should be overlooked to call attention to the fact that every means must be adopted to save basic raw materials.

For reprints of this advertisement or further information concerning electrical wires and cables, write **The Okonite Company, Passaic, N. J.**

3279

Salvage Your Scrap — Buy U. S. War Bonds

RAILWAY AGE

Monopoly and Unemployment

All the planning done for adequate post-war national production and employment can be largely nullified by pressure groups disregarding the economic necessity of *balancing* (1) the rewards of labor and capital in each industry, and (2) the prices and rates of different industries.

Economics is to most persons the "dismal science" which Carlyle called it, and few will really study it. But it states the rules of the game by which we all get our livings; and the more we disregard its rules the smaller, in the long run, are the incomes and the worse the livings that we all get. Nations try by tariffs and wars to exploit other nations. Groups in the same country try by political or monopoly pressure to exploit other groups. Because these pressures usually are unequal, they cause unbalanced economic relations and keep everybody unnecessarily poor. The maximum production and employment possible in each country and in the world cannot be attained and maintained under a system in which political and monopoly pressures for the purpose of exploitation prevail. Maximum production and employment are attainable only under a system of co-operation which recognizes that all the people of a country and of the world must prosper together, or most of them will not prosper at all.

Efficiency FOR VICTORY

The first essential to national prosperity is a sound economic balance betwen the rewards of labor and capital in each large industry. Unless the labor employed by an industry is rewarded in proportion to its contribution to production, it will not have enough purchasing power to buy its share of all that can be produced. Unless the capital employed by an industry is adequately rewarded, the industry itself will not have enough purchasing power, because it will be unable to raise enough capital to buy the equipment and materials required for expanding its plant and reducing its costs and its prices or rates. Prosperity requires adequate purchasing power by both wage-earners and industry. Wage-earners buy for consumption, industry for production; but unless an industry can buy enough "capital goods" constantly to expand and improve its plant, it cannot provide the increasing payrolls necessary to increasing its employment and the purchasing power of its employees.

The second essential to national prosperity is a balance between the prices and rates of different industries that will enable each industry to sell all it can produce to other industries, or their employees, or both. In the United States, with the enormous capacity for production and transportation demonstrated during the present war, the great post-war problem will be that of developing a large enough total peacetime market to absorb all that can be produced. If there is failure to develop a large enough total peacetime market, it will be due principally to failure to establish and maintain an economically sound balance between the prices and rates of different industries.

The great enemies of an economically sound balance of prices are political and monopoly pressures by different groups or "blocs" of the people—business blocs, agricultural blocs, labor blocs and political blocs, the last-named using the power of government to gain the votes of the other blocs. The only apparent remedies are enforcement of competition within naturally competitive industries, strict government regulation of naurally monopolistic industries, and strict government control of labor monopolies—if the existence of labor monopolies, unlike that of artificial business monopolies, is to continue to be tolerated, and even fostered, by federal laws.

Experience has shown that the pressure of labor monopolies, backed by strikes and strike threats, can be much more effective than

business monopolies in preventing the kinds of economic balance required to provide an adequate peacetime total market. Thereby it can, and if uncurbed will, disable private enterprise in the postwar period from providing adequate production and employment. And labor leaders would be the first to raise an outcry about the resulting unemployment, and to demand action by government and business because of it.

The way to prevent unemployment is to attack its causes. And artificial and uncontrolled monopoly, whether created by the policies of government, business or labor, or all of them, is certain to cause unemployment.

Early Release of Budgets Is Essential

With the largest roadway and structures program in history confronting them, maintenance officers are more anxious than ever to get their work under way at the earliest possible date. If they are unable to do this, they will be greatly handicapped throughout the year, and are fearful that, because of shortages in both labor and materials, they will find themselves with much unfinished essential work as the year draws to a close.

With such prospects in mind, maintenance officers of many roads await the approval of their work budgets, without which their hands are largely tied. Some of them have already been given the "go-ahead" signal; others are standing by, marking time—valuable time—because their maintenance budgets have not yet been approved. Their work is being put to an increasing disadvantage each day that this approval is delayed. Such delay may set back by months the completion of projects that are vital to the supply of transportation.

It makes a great deal of difference today to a maintenance officer whether his work program will be increased 5 per cent, 10 per cent, or more over that of the previous year, as many of them will; whether he will get 300 miles of rail instead of 200 miles, 300 miles of ballast instead of half that much, or the increased program of roadbed and right-of-way work he has requested, rather than a schedule more nearly normal.

Neither increased amounts of materials nor manpower are to be had for the asking—they must be planned for long in advance if they are to be had at all. It is equally certain that greatly enlarged programs may necessitate the purchase of a larger number of units of work equipment than would be required otherwise; and if it was ever necessary to place orders early for such equipment to avoid long-delayed deliveries, it is now.

The plea of producers and manufacturers is consistently the same—place orders as far in advance as possible. In other words, with production schedules already crowded, a backlog of orders waiting to be filled, problems and delays in securing the necessary materials and labor to fill each additional order, it is the prudent course to "get in line as quickly as possible."

Diesel Maintenance Costs

Maintenance cost is an important factor in assessing the value of the remarkably effective new tool which railroads have in Diesel motive power, and yet surprisingly few authoritative figures covering all elements of Diesel locomotive maintenance, particularly in the case of road power, have been released up to the present time. The latest basic data of this kind were given in an attention-arresting paper, presented at the January 11 meeting of the New England Railroad Club by P. H. Hatch, assistant mechanical engineer of the New York, New Haven & Hartford.

In a study of the performance of ten Alco-GE double-unit 4,000-hp. locomotives, which had accumulated a total of 4,886,908 miles of mixed passenger and freight service in slightly over two years operation on the New Haven, Mr. Hatch stated that six of the twenty 2,000-hp. single units have already had Class 3 repairs and 10 cents a mile is a reasonable top limit for overall maintenance in the present type of service. This means 20 cents a mile for each of the ten 4,000-hp. locomotives.

In comparing the figures quoted with the cost of maintaining other types of power, particularly steam locomotives, as reported by individual railroads to the Interstate Commerce Commission, two significant facts should not be overlooked, namely: the Diesel locomotives are relatively new, compared with the average age of steam power reported to the I. C. C.; and the ten specific 4,000-hp. Diesel locomotives referred to are operated as a fleet under conditions which permit making an average monthly mileage of roughly 20,000. Since many items of locomotive maintenance accrue on a time basis, it is obvious that motive power which is less intensively used will make a relatively poorer showing when maintenance cost is expressed in terms of miles operated.

It is interesting to note that one reason for the excellent performance record established by Diesel road power on the New Haven is the fact that operating conditions are such that it is feasible to have a gear ratio which permits using these locomotives interchangeably in either passenger or freight service. With a preponderance of passenger traffic during the day and freight traffic at night, therefore, the Diesel road power is operated in practically turn-around service and makes a notably high monthly mileage, considering the absence of long runs and other purely physical limitations on the New Haven line.

Two specific questions bearing on Diesel locomotive maintenance, and now being generally asked, relate to how much money railroads should invest in spare parts to keep this power operating and how far the manufacturers should go in protecting their customers. Mr. Hatch takes the position that railroads should consider the cost of spare parts as reasonable insurance on a large investment in Diesel motive power and stock all of those parts which experience shows are most likely to fail, or are most difficult to repair in case of failure. He maintains that major locomotive parts which fail infre-

quently, but, when they do, tie up the locomotive for a considerable period, should preferably be stocked by the manufacturers, as the risk on a single road is small, but spread over a number of roads may be appreciable.

Unit replacement of parts is an accepted principle of Diesel locomotive maintenance. In view of the investment involved, it is obviously sound policy to provide an adequate supply of repair parts and subassemblies to keep the power in operation and also adequate maintenance facilities so that repair operations will be suitably housed and every necessary tool and mechanical assistance supplied for the efficient performance of this important work.

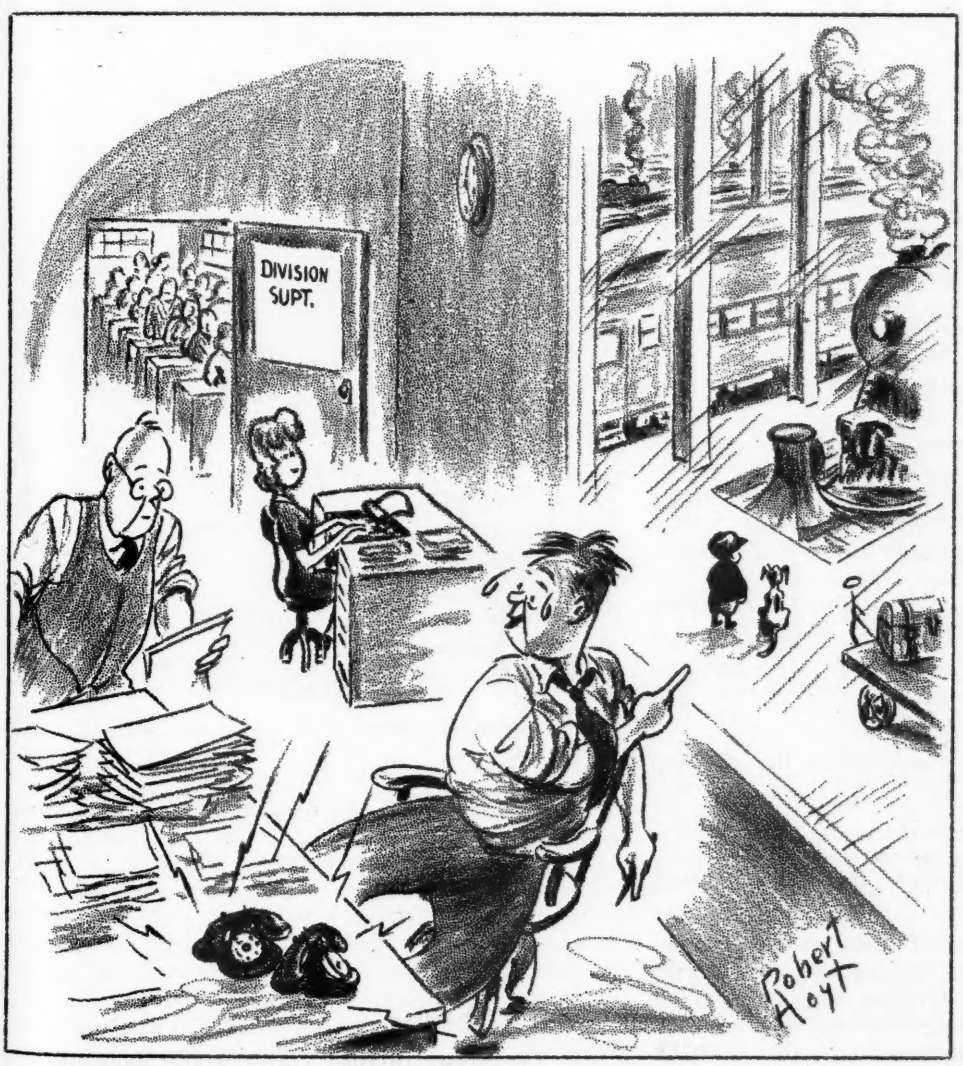
New Employees and Accidents

Reports of recent accidents continue to emphasize the serious and frequently fatal results that come from mistakes made by new employees. Brakemen and firemen with less than a year's experience continue to prove, beyond any question, that a railroader cannot be made overnight and that, regardless of the alertness and competence of these men, there is no substitute for experience in railroading.

This situation places enlarged responsibility on railway officers and older employees. Increased vigilance is demanded of them to prevent the new men from making tragic mistakes. They must keep everlastingly at the teaching of new men, acquainting them with the complexities of railway operation. They can never assume that a new man knows the railroad merely because he has been over it several times. The intimate knowledge of every switch, siding, station and signal that is so necessary to prevent accidents, cannot be attained suddenly, and no one except older employees and supervisors make good this deficiency.

While there is much that the railways can and should continue to do to meet their needs for competent labor, the final solution to the difficulty lies in the hands of the selective service boards. The withdrawal of experienced manpower has reached an extent which cannot be corrected by make-shifts and expedients. The selective service board which calmly told a railway in a vital area that a good man could be taught telegraphy and made a train dispatcher in six months presents a typical example, rather than an isolated case, of the sort of ineptitude that is ruining the railways' ability to maintain their vitally needed transportation.

Perhaps the railways themselves have contributed to such misunderstanding on the part of those responsible for recruiting men. They have co-operated wholeheartedly with selective service authorities, and have given freely of their best officers and men to the battalions of the Military Railway Service—perhaps inducing the opinion that they had plenty of personnel to spare. This co-operation is laudable, but it is now even more patriotic to resist the further depletion of the ranks of skilled railway labor. Colonel Johnson of the Interstate Commerce Commission merits wholehearted co-operation from the railways in his efforts to awaken the authorities to the grave national danger in depleting railway forces below the point adequate to maintain the nation's wartime transportation.



"Quick! Ask that young man if he'd like to go braking."

Operating a "Hot-Shot" Division

Shasta line of Southern Pacific faces problems of intensive military and other traffic in mountain territory

DESPITE the handicaps of heavy traffic, shortages of men and materials and the difficulties inherent to railway operation in rugged mountain territory, the Shasta division of the Southern Pacific is doing an outstanding job in supplying vitally needed wartime transportation. In fact, since January, 1943, its operations have shown a distinct improvement, especially in train speeds and in reduction in the number of train crews tied up under the 16-hour law. The growth of traffic on this division has been phenomenal, as indicated by the fact that it is handling more than 150 per cent more gross ton miles in main line service than were handled over the line in 1938, despite the voluntary action of the S. P., since October, 1942, in deliberately short-hauling itself by intensive solicitation of certain transcontinental traffic originating in Oregon to move via Portland and connecting lines, instead of by the normal S. P. route via Alturas, Cal., to Ogden, Utah. This action has not only relieved the Shasta division, but also the busy line across Nevada as well.

A Mountain Division

There is still plenty of business to be handled, however, as indicated by the fact that this single track mountain railway is averaging 534,835,000 gross ton miles (excluding locomotive and tender) per month. The efficiency with which this traffic is being handled is shown by the fact that 47 per cent more net ton miles are being handled this year than in 1941, with an increase of only 6 per cent in freight train miles. This huge traffic is being handled over a railway on which the grades require frequent helper service.

The average number of passengers per car on this division has reached an unprecedented height. Passenger train car miles are averaging 1,507,578 per month, an increase of 27 per cent over 1941 in contrast with a decrease of 8 per cent in passenger train miles as compared with that year.

The number of train and engine men normally employed on this division are as follows:

Trainmen	429
Enginemen	406
Yardmen	108

The number of locomotives assigned to this division are as follows:

14 locomotives assigned to yard service
8 locomotives assigned to road passenger service
87 locomotives assigned to road freight, helper and emergency passenger service

The Shasta division consists of 558.5 miles of single-track line, all of it in the mountainous terrain of northern California and southern Oregon, and much of it situated in the bottom of winding canyons. This division was consolidated with the Sacramento division in 1932, but the increasing volume of traffic brought about its re-establishment as a separate division, with headquarters at Dunsmuir, Cal., on July 1, 1941. It is entirely a bridge line between the Sacramento and Portland divisions and between the Portland and Salt Lake divisions.

The main line of 307.6 miles extends between a connection with the Sacramento division at Gerber, Cal., and a connection with the Portland division at Crescent Lake, Ore., on the Cascade line. This line is divided into three engine districts, as follows:

Gerber-Dunsmuir	101.4 miles
Dunsmuir-Klamath Falls	107.1 "
Klamath Falls-Crescent Lake	99.1 "

The Shasta division also comprises the southern portion of the Siskiyou line, which was the old main line of the S. P. until the Cascade line was built to provide easier grades. This Siskiyou line leaves the main line at Black Butte, Cal., 22.3 miles north of Dunsmuir, and extends for 85 miles to a connection with the Portland division at

The Shasta Division Traverses the Mountains of Northern California and Southern Oregon

Ashland, Ore. The division also includes the line which extends southeast 97.5 miles from Klamath Falls, Ore., to a connection with the Salt Lake division at Alturas, Cal.

There are only two branches on the division, one extending 55.5 miles north from Alturas to Lakeview, Ore., and another between Redding, Cal., and Coram, 12.8 miles. This latter branch serves the Shasta Dam at Coram and is a remnant of the former main line, which was relocated when the dam was built, as described later.

The busiest piece of railway on the division is between Klamath Falls, Ore., and Chemult, 73.8 miles, for this stretch of track is used also by the Great Northern, to reach its California connection with the Western Pacific.

Line Relocation Aids Operations

The superintendent's staff consists of an assistant superintendent, a division engineer, a master mechanic, four trainmasters and an assistant trainmaster. Other supervisory officers include a division rules examiner and two road foremen of engines. One trainmaster, an assistant and a road foreman are stationed at Klamath Falls, and one trainmaster at Alturas. The other officers all have headquarters at Dunsmuir.

Eight Bridges Had to Be Built on the Relocated Line

For some years prior to the war, the Southern Pacific had been spending large sums on the improvement of this mountain division, in accordance with the general program for bettering the entire system. In addition, the south end of this division was the site of one of the outstanding line relocations of recent years. This relocation was reported in a series of articles, appearing in the *Railway Age* on June 14, June 21, and June 28, 1941. Briefly, this involved replacing 37.04 miles of line in the Sacramento River canyon, which were to be inundated by water backed up by the Shasta dam of the Central Valley project of the federal government. The new line is located out of the canyon and for a considerable portion of the distance is to the east of the old line. It involved the boring of 12 tunnels, with an aggregate length of 19,070 ft., and 8 major bridge structures, with a combined length of 12,214 ft.

The new line is 30.09 miles in length, effecting a saving in distance of 6.95 miles. The curvature on the old line aggregated 7,132 deg., as compared with 2,028 deg. on the new line and the maximum curvature was 11 deg., as compared with 4 deg. These improvements were effected as the result of lifting the line out of the canyon; but this involved greater rise and fall, the figure being 638 ft. for the old line and 892 ft. for the new railway. The maximum grade on the old line for northbound trains was 1.0 per cent but such grades occurred only in short stretches; on the new line, because of the long continuous grade, the maximum adopted was 0.9 per cent which permits uphill trains to make reasonable speed. Southbound, the old line had one section of 0.8 per cent grade which was short and was operated as a velocity grade; the new line, with its much longer grade, was built with a 0.5 per cent maximum. The southern 12.8 miles of the old line were left intact and now form the Redding-Coram branch which is used to haul materials to the dam.

Other Physical Features

At Delta, the north end of the relocated line, the railway enters the canyon, which it follows for 25.4 miles into the division headquarters at Dunsmuir. The location of this town in the bottom of the canyon, with towering mountain walls on each side, made an elongated terminal lay-out necessary. The yard is situated about a mile south of the town. Necessarily it is a long, narrow yard, with a grade against northbound movement. Considerable ingenuity was necessary to develop adequate space for the shops and enginehouse, which are also strung out along the river bank, near the passenger station.

North from Dunsmuir, the line begins its climb out of the canyon, gaining most of the elevation by means of a hairpin loop in a box canyon at Cantara, 5.5 miles from Dunsmuir. At Grass Lake, 46.1 miles from Dunsmuir, the line reaches its highest point, 5,106 ft.; it then drops down in the Klamath basin to 4,097 ft. and climbs again to 4,778 ft. at Crescent Lake, the north end of the division. Between Gerber and Grass Lake, in a distance of 150 miles, the line climbs nearly 5,000 ft. from 244 ft. above sea level to 5,106 ft. The ruling grade in this distance is 2.2 per cent.

Fighting the Elements

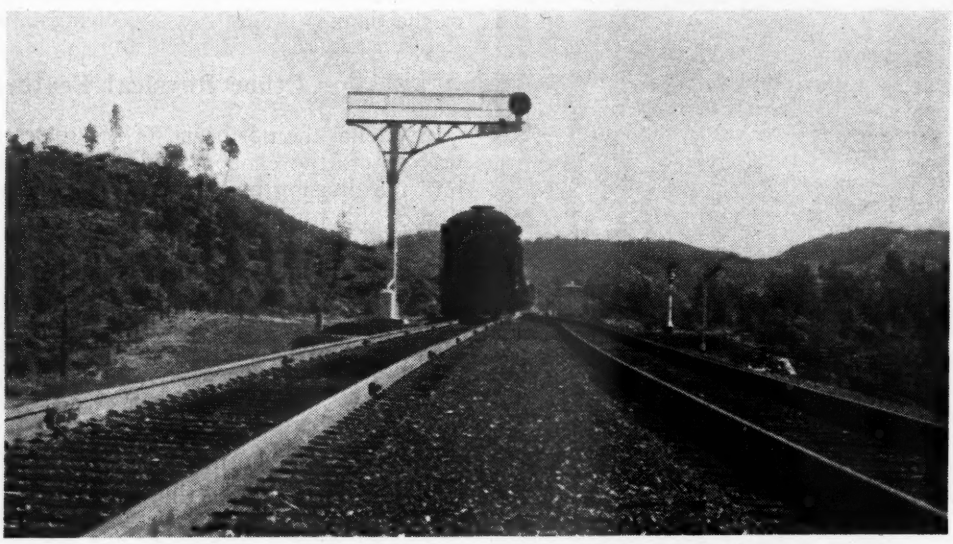
The grades on the Siskiyou line are considerably heavier. From Hornbrook to Siskiyou, 19.1 miles, there is a steady grade against northbound movement of 174 ft. (maximum) to the mile, or a little more than 3 per cent; while a similar grade is encountered against southbound movement from Ashland to Siskiyou, 16.9 miles.

On the main line of the Shasta division, rail weighing from 90 lb. to 132 lb. per yard is used. The Alturas line is laid with 75 lb. to 110 lb. rail throughout. The Siskiyou line is laid with 90 lb. rail, with some 110 lb. rail on the curves.

The location of these lines in mountain territory re-

quires unusual efforts in keeping them open that are not necessary on divisions in less rugged territory. That part of the line in the canyon is being improved constantly. To avoid the repetition of flood damages in certain sections, it has been necessary to change the course of the streams in several places. Embankments have been faced with concrete in many places; in other locations huge boulders that created eddies and threatened the embankment were removed and in still other places, jetties were built to divert the full force of the stream from the tracks. Where the line is in the open, at the base of Mount Shasta, flash-floods sometimes occur, from natural damming of the run-off from the five glaciers on the mountain, followed by the collapse of such dams.

Snow offers little handicap in the canyon, but is a considerable menace most winters in the open country on the northern portion of the division. The problem is complicated in the vicinity of Black Butte by the prevailing high winds, which sometimes reach a velocity of 85 miles per hour. Last winter it was necessary to operate spreaders and rotary snow plows north of Klamath Falls for 40 consecutive days. The lack of adequate section forces complicated the problem materially last winter, particularly in clearing switches of snow. It is expected that the additional Mexican section labor procured since then will simplify the problem this year.



Part of the New Line Built to Remove the Railway from the Shasta Dam Reservoir

The division is well supplied with slide detector fences and fire detector equipment on bridges. In the territory of centralized traffic control, these devices are an integral part of the C. T. C. system, as are the dragging equipment detectors in the same area.

Handling the Traffic

Although the Shasta division operates through long stretches of thinly populated areas, it produces a considerable variety of local traffic. Between Gerber and Redding on the south end, a productive orchard district is served. The only traffic originating between Redding and the California-Oregon state line is timber, but just over the line, the fertile Klamath Basin is entered. Here potatoes and grain are produced in large quantities. Klamath Falls is also the center of a considerable lumber and cattle industry.

Practically all through traffic is moved over the Cascade line, because of the adverse grades on the Siskiyou line. Traffic originating locally on the latter line consists largely of cattle and dairy products. Some lumber is hauled and, in the Rogue River Valley orchard area, a large volume of pears are produced annually.

The northern section of the Alturas line is in the Klamath Basin agricultural territory but the rest of the line produces only timber. The concentration camp for Japanese aliens at Tule Lake, Cal., on the Alturas line is the only camp on the Shasta division. However, because of its location between large centers of military and naval activities, this division handles much military traffic.

Helper Service

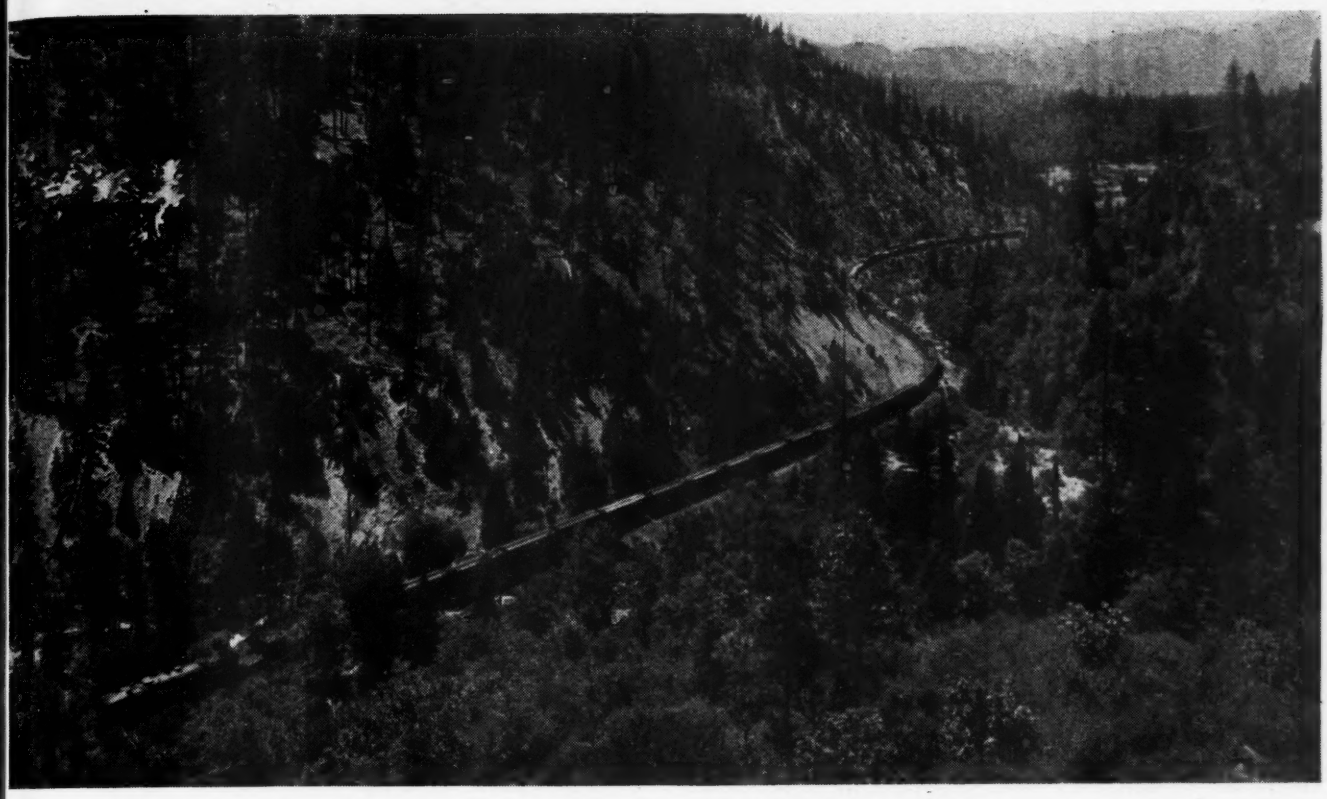
Because of the rugged mountain territory through which the Shasta division operates, a large amount of helper service is required. On the main line, helpers are used northbound from Lakehead to Dunsmuir, 29.5 miles, and from Dunsmuir to Grass Lake, 46.1 miles. On the southbound runs, helpers operate only from Mt. Hebron to Grass Lake, 25.5 miles. Manifest trains northbound from Dunsmuir average between four and five locomotives each.

On the Siskiyou line, helpers are operated from Hornbrook to Siskiyou, 19.1 miles, northbound; and from Ashland to Siskiyou 16.9 miles and from Edgewood to Black Butte, 9.4 miles, southbound. On the Alturas line, helpers are run from Alturas to Ambrose, 27.1 miles, northbound; and from Perez to Ambrose, 20.7 miles, southbound.

This helper service is necessary to maintain the tonnage of between 4,000 and 5,000 tons. The tonnage limits for one of the 4-8-8-2 cab-in-front locomotives which are standard for road service on this division, are as follows:

	Tons
Gerber-Delta	3,500
Delta-Dunsmuir	2,800
Dunsmuir-Black Butte	1,550
Black Butte-Grass Lake	2,500
Grass Lake-Klamath Falls	7,000
Klamath Falls-Crescent Lake	4,000

Thus it will be seen that the only solution to the problem of maintaining a train at anything like even tonnage over the division is the use of multiple helpers. The



Operations in the Sacramento Canyon Pose Many Problems

helpers used on the Shasta Division are 2-10-2 type and they are also employed in hauling empties from Gerber to Delta, in which service they handle trains of 99 cars. The locomotives on this division are all oil burners, requiring the hauling of considerable company oil to Dunsmuir. Trains from Gerber frequently fill out with such oil, which is set out at Dunsmuir at the same time that traffic for the Siskiyou line is switched out.

Mechanical Facilities

Five enginehouses are maintained on the division, in addition to one at Crescent Lake operated by Portland division and another at Gerber operated by the Sacramento division. Main-line enginehouses are located at Dunsmuir and Klamath Falls, while the Alturas line is served by an enginehouse at Alturas. The Siskiyou line has enginehouses at Ashland and Weed, the latter being used almost entirely for the servicing of helper engines.

While there is a locomotive repair shop at Dunsmuir, heavy work there was discontinued when the Shasta and Sacramento divisions were consolidated in 1932. Plans are now under way to resume heavy work at Dunsmuir and the shop force will be increased by some 300 men as soon as the necessary housing now under construction is available and as soon as the men can be obtained. Some idea of the mechanical problems involved in these mountain operations may be gained from the fact that, because of the excessive braking required and the flange wear on curves, a 2-10-2 helper gets a new set of No. 1 tires every six weeks and the remainder of the tires have to be changed at relatively short periods.

The division employs 3 chief dispatchers and 18 trick dispatchers, working as five regular sets of dispatchers, with one relief set. Dispatching of trains over the division has been aided materially by the installation of 80 miles of centralized traffic control between Redding and Black Butte, which was completed in 1942. This installation is unique in that, among others, it includes the stretch of new railway between Redding and Delta (which was the first long stretch of new line built in this country with the requirements of C. T. C. as to passing sidings, etc., in view at the time of construction).

The benefits of the C. T. C. are illustrated by the fact that, whereas crews were occasionally tied up under the 16-hour law under the old operations on the south end run of 101.4 miles between Dunsmuir and Gerber, since the C. T. C. installation on some 60 miles of this territory, crews are never tied up except in case of accidents, and, not infrequently, make turn-around runs of 202.8 miles well within the 16-hour limit.

* * *

Photo courtesy Canadian National

"Worth Their Weight in Gold"

Thus has W. H. Kyle, superintendent, Montreal terminals, described the Canadian National's new snow plows. First of their kind in Montreal, the machines are driven by a one-cylinder gasoline engine and are capable of cutting a path 4 ft. wide.

Challenge to Railroad Suppliers

There is need for further progress in equipment design, and reduction in weight and price, to enable railroads successfully to meet their competition

By R. W. Brown

President, Lehigh Valley

THE wartime record of the railroads speaks for itself. In great measure, railroad achievement has been made possible by the many improvements which have been perfected by equipment builders over the past two decades—particularly the newer types which have been developed since 1922. Locomotives and cars built since that time have enabled us to perform a constantly increasing volume of transportation service with a much smaller supply.

Railroad management cannot, however, rest upon this achievement, and the equipment and supply industry should not be satisfied with it. The equipment and supply industry and the railroad shops have always constituted the laboratory of research for the railroad industry. And they must continue to be the melting pot for new ideas. They have done a good job. But if we rest upon our laurels, others will begin to point with alarm.

As long as the war continues, the railroads have a big job ahead. When the war ends, they will face a still bigger job. The post-war period will bring a revival of keen competition in the field of transportation. Motor trucks, buses, and planes will return to the field of commercial transportation. And they will probably come back bigger and better than ever before.

The wartime job of the railroads may be long remembered, but shippers and travelers are the buyers of transportation service. Their plants and products will also face highly competitive markets, and they will naturally turn to the best service at the lowest cost. If the railroads are to secure their share of the traffic, they must be prepared to offer the highest quality of service at the lowest permissible cost.

Too Much Dead Weight

If the railroads are to survive, they must have the best transportation tools that science and genius can develop. I am mindful that our equipment has been improving steadily for many years; but it has likewise been getting heavier and heavier. Freight cars are still built along the same general lines as in the past. They are stronger and safer; and they carry more tons; but we still haul too much dead weight for the pay load the cars carry. Steam locomotives are also larger, stronger, safer, and they operate at higher speeds; but the weight has likewise increased in almost the same proportion as the efficiency of the locomotive.

The years have brought improvements in the steam locomotive. The superheater is one of many. The heating area of the firebox has been increased slightly by the use of siphons and arch tubes; and brick arches have aided in the retention of heat in the firebox. The efficiency of the boiler has been increased by the treatment of water; and the heating of feed water has added to the steaming ability of the locomotive. These improvements, however, have already received a full share of the credit for the more efficient handling of increased traffic volume.

Diesel's Advantages

Competition in the future will not be limited to railroad service. It will include railroad equipment—locomotives and cars. Diesel locomotives are now being used more generally. Will this type of power finally supplant steam? We know that it is already replacing steam in some classes of service, and it will likely prove a serious competitor in all classes of service—unless the steam locomotive is made more efficient. As you know, the Diesel has a number of advantages, and among them are:

Long mileage without stops for water and fuel and the other services which must be given to steam locomotives.

Added power in starting and at slow speed.

Cleanliness from the absence of smoke and cinders.

On the basis of present fuel costs, the Diesel enjoys a considerable advantage in this item alone.

Can these advantages be overcome? Can we make steam locomotives more efficient and reduce fuel costs, decrease the necessity for frequent attention to the fire and the firebox, and eliminate unnecessary stops for fuel and water? These are some of the features which must be improved if the running mileage of the steam locomotive is to be lengthened.

Can steam losses be reduced? We now generate steam in much the same manner as we did when the first horizontal boilers were designed. We distribute steam to the cylinder in practically the same way as we did fifty years ago. With the present type of firebox and flue construction, we have about the same resistance, resulting in too much loss in the transmission of heat from the firebox to the water in the boiler. The waste of heat and fuel through the stack is too great. Exhaust steam often leaves the exhaust nozzle at a temperature higher than when it left the boiler—another wasteful loss of heat.

With the exception of roller bearings, little has been accomplished to reduce frictional resistance to the bearings and other wearing parts of the locomotive. This resistance, together with the power necessary to move the weight of the locomotive, consumes too great a percentage of the power generated. As I see it, these are some of the problems that face the equipment and supply industry, if the railroads are to hold their place in the transportation field—with the unlimited use of steam locomotives. While it is not my purpose to differentiate between the two types of power, we cannot ignore progress in the railroad business or in any other business.

This article is an abstract of an address to the New York Railroad Club, presented on February 17.

Railroads *Must* Seek Improved Products

Our competitors are not idle and your competitors are not idle. The builders of Diesel power look upon the railroads as a great market for the future. They study every feature of the Diesel locomotive and its relation to every phase of railroad operation. They do not hesitate to depart from the customs and practices of the past. It is much the same with motor transport. Only recently a noted automotive engineer made the statement that the post-war motor car will have its engine in the rear, under the car, or even on the roof—if that is where it should be placed in order to get the best results. Tradition means little to those who build transportation tools for our competitors.

Freight cars also remain the same heavy type—with added weight in order to secure stability and safety. Sometimes the dead weight of the car exceeds the pay load of the car itself. With empty mileage often exceeding 40 per cent of total car-mileage, the marked advantage of reducing the dead weight of the car is obvious—where it can be done without impairing the efficiency, stability, or safety factors of the car itself.

Streamlined trains and air-conditioned passenger equipment are relatively recent developments which were stimulating rail travel even before the war. We may, however, as well face the fact that these improvements are no longer new. Travelers now take them for granted. They expect better passenger service tomorrow—with higher speed, more comforts, and greater safety. The manufacturers of motor vehicles and airplanes are always experimenting with changes and improvements in the equipment they expect to sell. Their sales slogans always stress the advantage of newer models at lower prices, and with reduced cost of operation. Perhaps it is not quite fair to compare motor vehicles and planes with steam locomotives and freight cars. Nevertheless, they provide competition which we must meet. Our ability to meet this competition will depend largely upon the development of railroad equipment that will enable us to do a better and cheaper job. In the main, this is the responsibility of the railroad equipment and supply industry.

The railroads emerged from the first war with deferred maintenance and the need for replacements in many items of plant and equipment. It cost several billion dollars to restore the properties, but the performance of the railroads over the past two decades has more than justified these expenditures.

The railroads will also emerge from this war with deferred maintenance and the need for replacements all along the line. The post-war period will offer great opportunity for the installation of the most modern types of equipment, appliances, and tools—but the wartime traffic volume and the wartime earnings, will be a thing of the past. No one can say what the future traffic volume will be, but we do know that every transport agency will comb the field for a share of the business.

Railroad Equipment Costs Too Much

We must, therefore, not only strive for lower costs of operation—we must strive for lower costs of improvements and replacements as well. We cannot continue to pay $200,000 for a steam locomotive of a type and design which cost only $116,000 ten years ago. This is true also of cars, special appliances, and practically every item of equipment and supplies the railroads use. In the last analysis, railroading is really a battle of engineering science—a battle to produce a constantly increasing volume of transportation units at continuously decreasing cost. It is not too much to say that management has kept operating costs under rigid control. Even in this wartime period, our people enjoy the lowest cost rail service on the face of the globe.

Shippers now pay an average ton-mile rate of only a little more than 9 mills—the lowest ton-mile rate in more than 25 years, and this in the face of rising costs of wages, fuel, equipment and supplies.

There is always a limit, and the railroads have now reached that limit. The increases in railroad expenses are coming too fast. During the past two years, we have had two wage increases and we are now paying the highest wage rates in railroad history. Over the same two-year period, the cost of railroad fuel coal at the mines has increased 19 per cent. Railroads are meeting rising costs in everything they use. These increases now aggregate a sizeable amount annually, and it may be necessary for the railroads to seek additional income to cover them. While such a course could be justified as a war measure, we cannot expect high rates to attract a maximum traffic volume in the peacetime that will follow.

Supply Industry's Responsibility —and Opportunity

Shippers are favorably disposed to the railroads, but they themselves will be faced with keen competition, which will force them to yield their traffic to whatever agency of transportation affords them the most for their money. The railroads, consequently, must search intensively for improved tools—because that is what their resourceful competitors are doing. Since the carriers are a service industry, not manufacturers, it is their suppliers upon whom they must primarily depend for the means to thrive in the rivalry of the post-war world.

When I speak of post-war competition, I am assuming that we will have a sound national transportation policy at that time. The field of transportation should always be a fair field—with equality of opportunity for all forms of service. Each transportation agency should occupy the sphere where it can do the best job at the lowest real cost. What we know as a "complete service," may require the use of one or more types of transportation service. Therefore, transport agencies should be permitted to provide a complete service—when it is essential or desirable. Commercial transportation service, regardless of which agency provides it, should pay its way, and it should contribute its fair share to the public tax chest. Subsidies, preferred treatment, and special advantages, should be eliminated or reduced to a minimum. When public property is used in private business venture and for private gain, a reasonable price should be paid for such use.

Government regulation is essential, but it should be applied in equal measure to all forms of transportation. It should not hamper managerial functions, and it should not crush initiative. Such a policy would provide a sound solution for most of our transportation problems. It would encourage transport agencies to keep pace with developments in the art of transportation. It would stimulate constructive competition and discourage cut-throat and destructive competitive practices.

Improvements on the Pennsylvania Expedite War Traffic

Construction of new double track, second main track, longer sidings, C. T. C. and other signaling improvements, enables St. Louis line to handle heavy traffic

PART I*

ONE of the outstanding railroad construction programs of recent years, with work extending through three states and providing improvements on some of the most important rail lines in the country, is being rushed to completion on the Western region of the Pennsylvania.

Since 1939, enormous increases in traffic, particularly over the Pennsylvania's St. Louis, Indianapolis and Columbus divisions, a total of 420 miles, or two-fifths the distance between St. Louis and New York, have been handled, and during the last two years wartime freight and passengers transported have far exceeded what railroad officials originally thought were possible to handle with existing facilities. However, traffic over this St. Louis-Indianapolis-Columbus line—some of which is single track—has been handled with a minimum of delay, due largely to the fact that portions of the line were equipped with centralized traffic control.

To more efficiently handle this great volume of wartime business and to be prepared for the anticipated post-war traffic, the Pennsylvania has constructed many miles of new double track, second main track and new sidings and yard tracks, extended other sidings and has made additional C. T. C. installations and other signaling improvements.

These betterments on the St. Louis-Indianapolis-Columbus line and in other parts of the Western region are costing the railroad $20,000,000, and a major part of the work was completed by the end of 1943. Work will continue in 1944, until all projects have been completed. It is anticipated that with the facilities already completed and those nearing completion, the 10 to 15 per cent increase in traffic predicted for 1944 can be handled efficiently.

The construction of the new double track, west of Greenville, Ill., particularly, was probably the most interesting part of the construction program. Its seven miles of line represents a saving of one mile under the old eight-mile single track line and, although it is not

* Part II, which will appear in a subsequent issue, will describe in detail two of the major construction projects, a new double track line and one of the second main track jobs.

First Train Over the New Double-Track, the "American" Eastbound on November 2. The Old Main Line Diverges to the Right

Construction of 9.2 Miles of New Second Main Track, of a New Siding and Extension of Three Other Sidings to 150 Car Capacity, Greatly Helped Operations East of Greenfield, Ind.

far from towns and villages, the new double track line was cut through rural Illinois and while under way presented a picture not a great deal unlike that of the pioneering days of the railroads when they pushed forward through the wilderness, except, of course, for the modern equipment in this present rural scene.

Character of the Line

However, a short description of the railroad on which this and other improvements have been, or, are being made, seems in order. The St. Louis line consists primarily of two sections, that between Columbus, Ohio, and Indianapolis, Ind., and that between Indianapolis and St. Louis, Mo. Because traffic between Columbus and New Paris, Ohio, moves over two routes, one used primarily for freight traffic and the other primarily for passenger traffic, this article will be limited to a discussion of the improvements made on the line west of New Paris.

About 42 per cent of this line was single track, with six sections of double track, varying from 4.4 miles to 54 miles in length. Before the recent improvements, beginning at New Paris and proceeding westward, the line consisted of 43.2 miles of double track to Henry, Ind., and 16.4 miles of single track to Gem, Ind. From Gem, through Indianapolis to Davis, Ind., 21.3 miles, the line was double track, with additional tracks and a separate freight main and yard (Hawthorne yard) at Indianapolis. Then 29 miles of single track extending to East Almeda, Ind.; 4.4 miles of double track to Limedale, Ind.; 12.9 miles of single track to Harmony, Ind.; 22.1 miles of double track to Macksville, Ind.; 32.9 miles of single track to Casey, Ill.; 54 miles of double track to Hunter, Ill.; 39.9 miles of single track to Marty, Ill.; and 38.7 miles of double track to St. Louis. Briefly, the line comprised 57.6 miles of double track and 16.4 miles of single track between New Paris and Indianapolis, and 126.1 miles of double track and 114.7 miles of single track west of Indianapolis.

Main tracks are laid with 130 and 131-lb. rail, with 22 ties per 39 ft. panel on washed and screened gravel ballast. The line has automatic block signals throughout and authorized speeds are 70 m.p.h. for passenger trains and 50 m.p.h. for freight trains. Before the recent improvements, train movements on all single track, except between Hunter and Marty, were controlled by C. T. C. From Casey to St. Louis, which included 39.9 miles of single track between Hunter and Marty, trains were operated by time table, train orders and automatic block signals. Except where double track is equipped with reverse signalling, trains are not operated against the normal direction of traffic, except in emergency, and under such circumstances, trains are operated by train order and manual block.

This line handled a total of 2,725,163,000 gross-ton-miles of freight between St. Louis and Indianapolis in 1939, the last year that traffic was materially unaffected by war movements. In 1942, the freight traffic amounted to 6,556,560,000 gross-ton-miles in the same territory, or two and one-half times that of 1939. Between New Paris and Indianapolis the freight traffic hauled in 1942 was more than double the business handled in 1939. This line also carries a large volume of passenger traffic, which augmented by military movements, has greatly increased the total number of train movements. On a typical day, not counting light engines or work trains, 26 passenger trains and 28 freight trains operated between St. Louis and Terre Haute, Ind., 26 passenger trains and 29 freight trains between Terre Haute and Indianapolis; and 31 passenger trains and 39 freight trains between Indianapolis and New Paris. The highest daily movement on this line so far this year has been a total of 84 trains east of Indianapolis and a total of 69 trains west of Indianapolis. To get such a volume of traffic over numerous sections of single track requires first-class dispatching, and C. T. C. has proved to be an invaluable aid.

Capacity of Line Increased

Fortunately for the Pennsylvania, its officers anticipated a large increase in traffic on this line and planned improvements even before Pearl Harbor. Early in 1942, a two-year program of construction was begun which added materially to the capacity of the line. Briefly, these improvements consisted of the additional of 16.2 miles of double track between Marty

and Smithboro, Ill., increasing the length of the double track section east from St. Louis from 38.7 to 55 miles. Of this work, 8 miles is new double-track construction on new alinement and grade and 8.2 miles is new second main track. The new double-track construction reduced the distance approximately one mile, materially reduced grades and curvature and eliminated slow orders which were in effect on several trestles of the old line. New fireproof interlocking and C. T. C. towers were constructed at Smithboro and Vandalia, Ill. C. T. C. panels were installed in these towers to control the Chicago, Burlington & Quincy crossing at Smithboro, and the Illinois Central crossing at Vandalia and to provide C. T. C. operation over the 20.9 miles of single track remaining between Smithboro and Hunter, as well as remote control of passing siding switches between Hunter and St. Jacob, Ill. In addition, the 4.4 miles of double track between Almeda and Limedale were equipped with reverse signaling to permit trains to move in either direction on either track.

Between St. Louis and Indianapolis, 11 sidings were lengthened to accommodate 150 cars each, one new siding of the same capacity was constructed, one siding was lengthened to provide for 232 cars and another was lengthened to hold 400 cars. All sidings are in C. T. C. territory, or are under remote control from C. T. C. machines, and are equipped with power switches. All these sidings have No. 15 turnouts and No. 20 turnouts are provided at the ends of double track. This permits operation through the sidings, without stopping to open or close the switch at either end at 30 m.p.h. and through the turnout side of the No. 20 turnouts at the end of double track at 45 m.p.h. The long passing sidings with power switches have proved great timesavers, since frequently trains pass without stopping The lengthening of sidings also necessitated considerable signaling work, since some distant signals had to be relocated and in a number of instances this required respacing of intermediate signals.

At Hawthorne yard, Indianapolis, to further expedite freight movement and allow freight locomotives to be run from Columbus through Indianapois to St. Louis and vice versa, without reservicing at the Hawthorne engine terminal, two relay tracks, each of 150 cars capacity, were constructed along the south side of the yard. Coal, water, sand and ash pit facilities were provided at each end of these tracks, thereby eliminating the necessity for running the locomotive to and from the main engine terminal.

East of Indianapolis to New Paris, the capacity of the line was limited principally by 16.4 miles of single track between Gem and Henry, although this section is controlled by C. T. C., as previously explained, and had two passing sidings midway between Gem and Henry. When C. T. C. was installed, it was estimated that this single-track section would have a capacity of approximately 60 trains daily, so when traffic increased to about 75 trains daily some delays resulted. Accordingly, it was decided to build a second main track 9.2 miles long west of Henry, reducing the single track to 7.2 miles, and plans already have been prepared for double-tracking this portion.

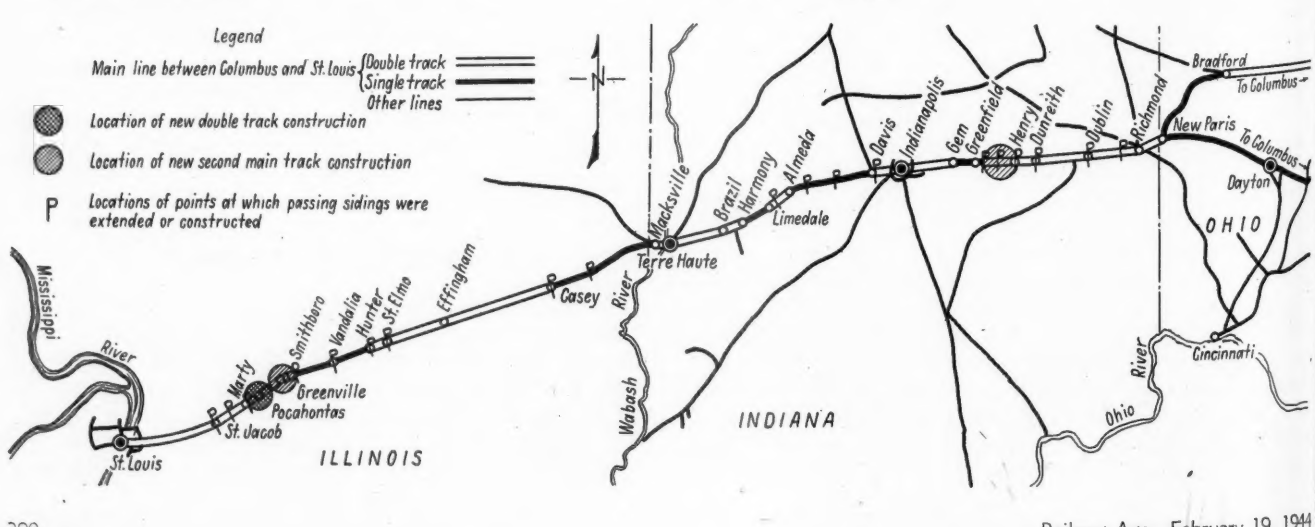
This second main line project—Gem to Henry—also included the extension of three passing sidings to a capacity of 150 cars each, the construction of a new siding of that capacity and considerable signal work. In addition, the grades on the line were revised to conform with ruling grades elsewhere on the division. This work all had to be done with minimum disturbance to traffic averaging 70, or more, trains daily. Operation over the new westward main track was inaugurated shortly before noon on December 8, when "The American," No. 67, passed over the line.

Changes Designed to Expedite Train Movements

Further improvements on the line between St. Louis and New Paris, included the extension of two passing sidings at Dunreith, Ind., to a capacity of 150 cars each; the extension of one siding at Dublin, Ind., and the construction of a new siding at that point, both with 150 cars capacity; and the extension of two sidings to 125 cars capacity each at Centerville, Ind. In this work also, No. 10 turnouts were replaced with No. 15; all switches (some of which had been hand-operated) were placed under C. T. C. control from the interlocking tower at Dunreith, and signals in the territory were respaced.

All improvements on the St. Louis line, which cost more than $7,000,000 were designed to expedite the movement of trains, particularly in the areas where some delays had occurred. The remainder of this article (Part II) will be confined to a more detailed description of the two larger construction projects on this work, the new double-track construction 8 miles long between Marty and a point three miles west of Greenville, Ill.; and the construction of 9.2 miles of second main track between Henry and a point 0.8 miles east of Greenfield, Ind.

The St. Louis Line of the Pennsylvania Between New Paris, Ohio, and St. Louis, Mo., Showing Single and Double-Track Sections and Location of Passing Siding Improvements



What Kind of Cars After the War?*

1944 will not unfold new materials for car construction, but 1945 may be different—Billion-dollar postwar market for equipment foreseen

By E. D. Campbell,

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THE publicity given to post-war developments will stand some scrutiny from a practical viewpoint as many wild statements are made and apparently accepted as facts. One of the most popular subjects is that of the kind of new materials available when our war effort no longer restricts their use.

The four materials most widely publicized are alloy steels, aluminum, magnesium and plastics. We are all more or less familiar with steel and its alloys, so probably a simple analysis of the characteristics of these materials compared with steel, may be used to form a foundation for the discussion. In this analysis I will exclude plastics because the other three can be used for strength-carrying members whereas plastics cannot.

In the matter of weight we find that steel in pounds per cubic inch is .285, aluminum .101, magnesium .065. Thus steel is approximately 2.8 times as heavy as aluminum and 4.4 times as heavy as magnesium. This weight ratio is, of course, the appeal in any analysis of metals. In design, however, we must know the strength values of the materials.

In any strength analysis we are first interested in the material's yield point and its ultimate strength. A rough comparison of these values of the different materials, again compared to steel, is as follows:

	Yield Point, lb. per sq. in.	Ultimate Strength, lb. per sq. in.
Carbon steel—1020	32,000	60,000
Alloy steel (Cor-ten)	50,000	70,000
(RDS)	55,000—70,000	70,000—90,000
Aluminum alloy (17-ST)	37,000	60,000
Magnesium alloy (Am-E-57)	26,000	37,000—45,000
Stainless steel (18-8 C.R.)	50,000—150,000	100,000—180,000

Another strength ratio vital in computing the strength of car members, is the modulus of elasticity. In this characteristic we find that steel is 29,000,000 lb. per sq. in.; aluminum, 10,300,000 lb. per sq. in.; magnesium, 6,500,000 lb. per sq. in. In cold-rolling stainless steel the modulus of elasticity may be brought down to a low of 21,000,000 lb. per sq. in.

As E is one of the denominators in deflection formulas for beams it is readily noticeable that this value has a direct ratio to the amount of deflection of the beam or member under consideration. From this analysis of strength characteristics, which is only representative, it may be assumed that any one or all of these materials can be used in car construction. Neither aluminum nor magnesium have any practicable value as structural members until the base metal is alloyed and heat treated, therefore the resultant physical characteristics are dependent on the kind of alloys used and heat treatment given.

However, other properties and costs enter the picture. The matter of ductility is a serious one in connection with some members of a car. Some alloys tend to become brittle at extremely low temperatures. Probably the one given the most serious consideration by a prospective buyer of equipment is that of cost. Here again we can become oriented as to the comparison of costs by using carbon steel as the base. At present, plates and shapes of carbon steel are $2.10 a cwt. base, Pittsburgh, or a base of 2.1 cents per lb. Alloys of steel vary in cost, of course, as to the kind of alloys used. Probably the least expensive is USS Cor-Ten. This alloy at present costs 3.2 cents base, plus freight. The aluminum alloy 17-ST, on which we gave strength characteristics, will probably sell for 20 cents per lb., plus freight. Stainless steel may cost in the neighborhood of 40 cents per lb. The price of magnesium may be as low as 25 cents per lb. Plastics cannot be fixed as to price, inasmuch as so many different kinds are manufactured and the quantity involved contributes largely to the final cost. As a guess, and for comparative purposes only, we might say that plastics will cost anywhere from 45 cents to $1.00 per lb. Just from a cost standpoint the obvious deduction is that the low priced alloy steels have a distinct advantage.

The other factors are cost of maintenance and ultimate life of the equipment using the above materials. The answers to these factors can be as varied as the so-called authorities who are questioned and this is understandable inasmuch as the answers hinge on the conditions under which the equipment operates.

Materials for 1944

At a conference called by the A. A. R. on December 14, 1943, which meeting included representatives of all the large steel companies and the aluminum industry, it was stated to the carbuilders present that for the year 1944 the carbuilders could only consider those materials with which we were familiar before we entered the war. By the way, this conference also fixed the designs of freight cars which the W. P. B. will sanction for construction during the year 1944. The record, therefore, discloses that 1944 will not unfold any new materials for car construction. This eliminates all materials for the structural members of freight cars except carbon steels, alloy steels and aluminum alloys. The year 1945 may bring forth materials representing an advance in the physical characteristics for the benefit of the car equipment industry. However, at the present time, due to military secrecy or other considerations, we have not become acquainted with such materials.

Magnesium—The outstanding property of magnesium is, of course, its lightness, it being two-thirds of the

* Abstract of a paper presented before the Anthracite Lehigh Valley Section of the American Society of Mechanical Engineers at a meeting held at Berwick, Pa., January 28, 1944.

weight of aluminum. In order to be used structurally, like aluminum, it must be alloyed and heat-treated. It surpasses aluminum in machinability and can be cast, forged or extruded as easily as aluminum. It can be formed into sheets and plates but not as readily as aluminum. While from a weight-strength ratio it surpasses aluminum, its deflection is about twice that of aluminum, thus nullifying some of its weight-strength advantages where deflection is a factor to be considered.

Magnesium corrodes readily due to its affinity for oxygen and nitrogen, so it must be primed or painted to protect it from contact with moisture. It is not desirable for use where it comes in contact with excessive moisture or salt water. It has a bright silvery lustre, which quickly darkens by oxidization. So far no method has been perfected to anodize magnesium, like aluminum, to preserve its lustre and prevent oxidization.

It has a definite fire hazard in such forms as dust or chips which puts it at a disadvantage with aluminum, which will not ignite.

With the vast facilities which have been developed to produce magnesium its cost, which has in the past been high, will naturally approach that of aluminum and open up many other fields for application in the automotive and industrial fields, as well as aircraft. It will have a place in passenger car construction in interior trimming, fittings, hardware, etc., where strength and appearance are not an important factor.

Not a great deal is known about magnesium in service. It has proved satisfactory in aircraft engine and fuselage construction and also satisfactory where used industrially. Undoubtedly much has been learned during the war about the production and behavior of magnesium, which is a military secret. When this information is released it will probably open up unknown fields for application.

Plastics—Plastics are never found in nature, but are man-made and therefore synthetic materials. The plastics field is very broad in its scope and there are about ten principal basic compounds. Among these can be picked materials possessing desirable characteristics of strength, toughness, surface hardness, colorability, clarity, etc.

The same yardstick for measuring strength and hardness as used for metals do not apply for plastics, so careful selections for any requirement must be based on experience.

Plastics do not possess the same strength as metals and so in this respect are not comparable with the lighter metals although they are in weight. They can be readily molded into any shape and this art is well developed. In the railroad field plastics will be limited to interior passenger car construction, where appearance is a factor and not strength, such as hardware parts, trimmings, seat parts, window cappings, table tops and in the fabric form for upholstery.

The use of plastic resins has been developed for plywood construction and for bonding of wood or steel. In combination with paper, cloth, asbestos and fibre laminations have been developed which possess a much higher strength than plastics. Micarta and Formica are examples.

Plastics are readily formed and machined, some have desirable resistance to moisture, acid and alkalies, and also possess excellent thermal and electric insulation qualities. The field of thermal insulation for plastics is being rapidly developed and as yet not completely explored. Plastics can be formed with excellent surface appearance very pleasant to the touch as compared to metals, and from the color standpoint any shade of color, as well as clarity is possible. Surface hardness is subject to close study in the selection of a plastic compound for the particular use required.

The initial cost of dies for molding has kept the price of plastics very high in comparison with the lighter metals, so up to the present time the use of plastics has been in the industrial field of appliances, toilet articles, etc., where production is high. Much has been predicted for the future uses of plastics and undoubtedly the use of plastics will increase, but probably not as broadly as some of the enthusiastic promoters predict. The extent to which the possible uses of plastics will extend will depend largely as to how far the cost of materials and production will be reflected in the ultimate cost.

It is definitely known now what the properties, characteristics, limitations and production of plastics are, so the increase in scope of their applications rests with the cost.

Freight Cars

All freight cars must meet the specifications of the A. A. R. for design and the I. C. C. specifications for safety appliances. Any cars not meeting these specifications will not be accepted in interchange Consequently, any radical changes in design must first be submitted to the A. A. R. This body may consent to try out the new idea in experimental service. This tryout may extend for a period of several months or for several years.

If then approved it can be applied to cars for interchange with the different railroads. The necessity for this is understandable inasmuch as the railroads must make sure that cars accepted for interchange, first, will stand the service; second, can be easily repaired; third, involve no hazard in their operation; fourth, meet all I. C. C. requirements; fifth, repair parts must be stocked so that cars can be kept running.

Thus, when you read of Henry Kaiser or some other industrialist, not in the car game, converting their plants to the production of new types of freight cars, you can discount such statements because their first hurdle to get over in any heavy production will be that of having the new design acceptable to the A. A. R. and the I. C. C. You might therefore, gather the impression that the railroads and the car equipment industry are standing in the way of progress, but this is an erroneous idea. The facts are that the railroads, through the A. A. R., by individual effort and the car equipment industry are all continually developing new ideas and improvements for railroad cars.

A fact which is generally overlooked by the public in connection with railroads is that they sell transportation and are not basically manufacturers. In other words, they do not have a manufactured product to sell but are buyers of equipment with which to furnish transportation. The A. A. R. Car Construction Committee have for years followed a program which is based in part on improving their rolling stock. New demands for speed and carrying capacity have brought new problems. The A. A. R. has been conducting, for the last several years, a series of tests of freight-car trucks capable of sustained high speeds. In my opinion it is indeed fortunate that the railroads have adhered to the policy of approval of the A. A. R. before new ideas of equipment were placed in interchange, otherwise I am afraid that the magnificent job accomplished by them during this war could not have been made possible.

A Forecast

As a forecast of what we may expect in future freight cars, and again calling to your attention that this is only my opinion, I believe the following:

1—The conventional freight car will be several thousand pounds lighter than those in general use today.

2—Trucks will be utilized capable of speeds at least up to 80 miles an hour without serious damage to lading.

3—The use of steel alloys for the majority of strength members in freight cars will become common practice.

4—A limited number of cars, particularly those which, because of lading, are subject to severe deterioration by corrosion and oxidization, will be built of aluminum alloy.

Passenger Car Design and Construction

The field of design for passenger cars is quite apart from that of freight-car design, as much more latitude is allowed in new ideas and, of course, many more different kinds of materials are utilized.

Materials—I believe there is a place in passenger cars for all of the materials previously mentioned. Here the element of cost is not so vital and the features stressed are light weight, comfort, riding qualities of the trucks and travel conveniences of many kinds.

In design, however, discretion must be used inasmuch as strength requirements for safety are mandatory. No car builder would ever design any passenger car not fully meeting the A. A. R. requirements for strength. Therefore, the main structural members of a passenger car are confined to the steels and the alloys of aluminum. The steel family includes, of course, carbon steels, alloy steels, stainless steels and variations of these. The aluminum, as stated, can only be used for strength members when alloyed and here the alloy must be selected with the required characteristics.

Interior—The interior finish, which has no bearing on the strength of the shell, can be any one of many materials. Here plastics will come into use for interior trim and fixtures. Aluminum will also pay a prominent part, particularly since it is a factor in weight reduction. Plywood and Plymetal with different compositions of wood, have been and will continue to be used for doors, partitions and other interior equipment.

The Weight Question—Before this war great strides were made in reduction in weight in passenger cars. Previous to the depression years a conventional steel coach weighed as much as 160,000 lb. This same car of equal strength and dimensions, but with four-wheel trucks, by the use of steel alloys weighs 112,920 lb. A stainless-steel car of practically the same dimensions weighs 114,140 lb. An aluminum car of this type weighs 104,060 lb.

Weight reduction in passenger cars will probably not get below the present level. The carbuilders are now prepared to offer designs in carbon steel, alloy steel and stainless steel, of welded or riveted construction. Practically all carbuilders building passenger cars can also offer a car built of aluminum alloys.

The passenger car is now pretty much standardized as to dimensions both in length and contour and, in my opinion, the designs were in an advanced stage proved by several years service. It is therefore only in the comforts of riding that we can look for things to happen in the post-war period—foremost and fundamental in this respect is the requirements for an easy riding truck.

Trucks—The six-wheel passenger truck seems to be a thing of the past and the long-wheelbase four-wheel truck has succeeded it. Cars are now running with these four-wheel trucks and giving excellent riding qualities. However, all four-wheel trucks do not ride easily, and even the best designs ride roughly under certain track conditions and under any track conditions if not properly maintained.

Seats—Another necessity for comfortable riding is satisfactory seats. In discussing seats it should be made clear that seats for suburban and city traffic are quite different from the deluxe type of coach seat. This discussion applies only to the deluxe type passenger car in which the seats are spaced farther apart and comfort is desirable. Seats to be comfortable should have upholstery of very good depth, either spring cushion or sponge-rubber cushion, and for overnight travel have reclining backs. Probably a development which can be gained in seats is that the seat cushion be changed in respect to its angular position with the back; in other words, when in reclining position approximately the same angle of seat cushion to seat back should be maintained as when one is in a sitting position.

Lights; Power Requirements—The fluorescent light became quite popular for lighting cars but probably did not reach its full stage of development when passenger-car work was suspended. I understand from the lighting people that they are now prepared to offer this light with reasonable assurance that it will give satisfactory service. The deluxe type coach travel will demand two things in lighting. The first will be general illumination of the car without any glare and without any bad effect on the eyes. The second requirement will probably be that each individual in the car will have sufficient intensity of light at the reading plane so that one can read comfortably for long periods without any undue eye strain. The latter requirement probably means individual lights over each seat.

The demand for power for lighting, air-conditioning and other appliances has reached such proportions that a 20-kw. generator is the minimum generally used. The accepted practice is to hang the generator on the underframe of the car and drive it through an attachment on one of the axles. Manifestly, this puts quite a load on the locomotive with trains having 16 to 18 cars. At the present time there is some agitation to have a self-contained power unit in each car. The source of power contemplated and proposed by one manufacturer is a small Diesel engine directly connected to a generator.

Air Conditioning; Heating—It is taken for granted that all deluxe type of travel equipment will be air-conditioned. In thinking of air-conditioning one is so apt to consider cooling only. Air-conditioning engineers realize that conditioning the air means correct temperature for body comfort with proper relative humidity in the air under all conditions of outside weather. This idea of air-conditioning has been completely developed and is in use in some cars. It is entirely automatic and will properly condition the air on the same trip in weather from zero to one hundred degrees. This is the ideal system and will probably be generally adopted at some time in the future.

At the present time practically all cars are heated by an independent system of steam heat controlled through the air-conditioning switch board. As you know, this system derives steam from the locomotive, piped throughout the length of the train. Obviously a train length of 16 or 18 cars involves some problem of obtaining sufficient heat in the rear cars. This is largely

overcome by stepping up the pressure and by regulation. Even so I am told that it sometimes requires 15 to 20 minutes after steam is turned on before the rear cars are heated sufficiently for comfort.

The all-weather system I predicted for the future overcomes this difficulty by a different system of heat distribution. In the year-round air-conditioning the air is heated by being blown over heated fin-tube coils.

Sash—I do not believe that the public is completely educated as to the necessity of having fixed sash in air-conditioned cars. This situation has been recognized by some railroads and they provide for it by having one or two windows at each end of the car arranged to slide. The feeling, of course, regarding sash is due to breakdowns in the air-conditioning equipment during exceptionally hot weather, under which conditions the passengers feel depressed. I believe, however, that air-conditioning equipment will be so designed and built that failures during trips will be practically eliminated. The sash in cars now have double panes of glass with the so-called breather arrangement whereby fogging and clouding does not occur between the glass due to differences between outside and inside temperatures. In fixed sash it is easy to obtain absolute tightness in fitting them into the car.

Decorative Treatment—The interior treatment of passenger cars seems to run in cycles between very plain and highly decorative finish. At the end of the passenger-car building period, April 5, 1942, we had reached the height of artistic treatment and were on the declining side of the cycle. Probably economics may determine the extent of interior treatment and my guess is that while we will have pleasing interiors, the lavish expenditure of money for artistic effect will pass out.

A Popular Car—For the last seven or eight years a type of travel has become very popular for a single overnight run. I am referring to runs of, say, 16 to 26 hours, such as between New York and Chicago, and between New York and Florida. These trains have as the major portion of their consist, the so-called sleeper coaches which are equipped with comfortable reclining seats. No extra fares or charges of any nature beyond that of coach travel are demanded by the railroads for such travel and most people, if only spending one night on a train, prefer this means of reaching their destination, not on account of its being much less expensive than travel on a train with sleeper accommodations, but for its convenience and shorter lapse of time for their journey. These cars are provided with sufficient toilet necessities for their passenger capacity and are made attractive in appearance. Any one who has traveled on such trains knows that seats must be reserved in advance.

Right here I would like to interject a thought that is really an operating matter and not a carbuilder's problem. Even though one is assured of up-to-date equipment, coach travel has two outstanding drawbacks. One is the lack of assurance of a seat, especially in these times, and the other is the bother of taking care of luggage. If one could be assured that these two inconveniences are eliminated, travel in modern coaches will be accelerated. It is possible to do these two things and in fact, on a very few trains it is now being accomplished. It is done by the railroads reserving a seat when the ticket is purchased, and providing means whereby baggage is stored in the car and not left to the passenger to take care of by placing at his feet or, if not too large, in the basket racks. Locker space at the ends of the car, guarded by the porter, takes care of the luggage and the parcels, if any, are usually handled by the individual anyway.

Post-War Freight Car Business

One can read and hear all sorts of prophesies as to the volume of new car business for production after the war. There is no question but that a large volume of both freight and passenger cars will be ordered when the materials are available. The number, I suspect, will be somewhat dependent on the financial condition of the roads. Thousands of cars will be needed to replace obsolete equipment and cars now running which will be unfit for service.

The forecasts vary all the way from 25,000 freight cars per year up to 175,000. Any formula used to arrive at some conclusion based on replacement due to worn-out equipment plus obsolescence, plus potential car loadings and also plus economic demand for light equipment, results in a tremendous number of freight cars necessary to be purchased each year for at least a five-year period.

Other agencies employed in post-war activities forecast by using a formula based on revenue ton-miles of anticipated business. A conservative estimate is probably that at least 100,000 cars will be purchased each year for at least a five-year period after the war.

It may be interesting again to look at the record in which we find that the Class I railroads in this country, have approximately 1,800,000 freight cars. Of this number of cars during the year 1942, cars retired were approximately 70,000 and cars built approximately 63,000. The above does not include privately owned cars. Knowing that freight cars are wearing out fast because of extensive use, it is not too optimistic to forecast that 100,000 new cars per year will probably be purchased.

The record of the totally owned cars by Class I railroads as of January 1, 1943, shows that 536,802 cars, or 30.8 per cent are over 25 years old, and only 142,138 cars, or 8.1 per cent, are under 10 years old. It requires no stretch of the imagination to realize that with over 500,000 cars over 25 years old and still in use, the requirements for the first post-war five years could easily be 500,000 cars.

Passenger Car Business

The forecast for new passenger cars likewise varies all over the map, but the record is revealing and undoubtedly has a good basis for a guessing contest of the potential future car business.

The record as of January 1, 1943, shows that the Class I railroads in this country owned 38,050 passenger cars. Of these 19,175 cars, or 50.4 per cent are over 25 years old. Under 10 years old are only 1,441 cars, or 3.8 per cent. A passenger car over 25 years old, of course, means that it was built before 1917 or before the first world war. Manifestly, such cars cannot be conceived as modern by any stretch of the imagination. Any prophesy, however, as to their replacement in my opinion, cannot be based on age only, inasmuch as many of these old cars can be used in short haul and suburban service. However, railroads must equip their main-line trains with modern equipment if they expect to retain and acquire traffic. A recent survey made by one of the largest industries in this country forecasts that 15,000 passenger cars of all types will be purchased in the post-war period. I do not believe this forecast intended to state that this number of cars will be built in the first year.

As a matter of fact, the passenger-car building capacity in this country at the present time is only slightly over 3,000 cars a year.

Railroads-in-War News

Less Transportation Facilities Available

More storage space and railway capacity offset by other losses, says Eastman

Reviewing the accomplishments of the Office of Defense Transportation's Division of Storage, and praising the co-operation of the industry in making its work successful, O. D. T. Director Eastman in an address before the Second Wartime Warehousing Industry Conference in Chicago on February 16 stressed the close relationship between transportation and storage in the task of meeting the burden of wartime demands for the orderly movement of commodities.

Warehouse Space Tripled—"There has been no freight car detention because of the lack of suitable dry-storage space," he said, and this was a result, he added, both of early planning by his agency and other government departments and of the most efficient use of available facilities. As a result of that planning, he went on to say, storage facilities have been constructed by the government since Pearl Harbor with a floor space almost double in area the total space operated by all the public merchandise warehouses of the country before the war began. Such planning is still going on, he added, particularly in preparation for the expected intensification of activities in the Pacific.

In contrast to the dry-storage situation, there have been at times "rather acute shortages of refrigerated space in certain areas," Mr. Eastman said. This was the result of a shortage of critical materials that made it impossible to accomplish the needed expansion of such facilities, both at the principal ports and in the larger interior terminal areas, and not of lack of appreciation of the need, he pointed out.

How O. D. T. Has Helped—Among other activities of the O. D. T. Storage Division, the speaker referred to its work in relieving port storage of so-called "frustrated freight," or freight destined to points that were occupied by the enemy before shipping space could be found for it. In addition, he added, the division has promoted the conversion of cooler space to freezer space, has co-operated in the solution of the industry's manpower difficulties, and has "been instrumental in persuading the railroads to expand transit arrangements as an aid to the best use of freight cars and interior storage space."

In a review of of the general transportation situation, the speaker remarked that "Our stock of transportation facilities is, on the whole, less than it was when the war began. Railroad trackage and yards have been expanded and improved to some extent in places where the need was greatest; there has been some, but not a large, increase in the aggregate capacity of locomotives and freight cars; two great new pipelines have been built. On the other hand, we have lost the use of all of our intercoastal, most of our coastwise, and some of our Great Lakes shipping. The new trucks, buses, and street cars that have been built have fallen far short of normal replacements, . . . and the whole highway transportation industry has been plagued by the rubber shortage, and to a lesser extent by gasoline scarcities."

Traffic Flows in New Channels—Mr. Eastman went on to point out that "One of the great difficulties has been that the traffic, in these wartime days, follows no normal pattern and is prone to the development of new and critical conditions." After citing the loss of the coastal tanker fleet and its effect on land transportation of oil to the seaboard, he went into some detail in connection with the grain movement.

"At the beginning of 1943 there was a carry-over of grain in storage equal to a year's crop," he said, "and the terminal elevators were full. Because of this situation, when the new crop was harvested in 1942 much of it had to be stored on the farms.

"The demand for grain, not only for human and animal consumption, but for other purposes, however, grew so rapidly that when the new and very large crop was harvested in 1943, the markets were open for its reception, and the farmers undertook to move, not only the new crop, but past accumulations. At the same time grain was moving freely out of the terminal elevators to destinations all over the country. The railroads had a burden almost equivalent to the moving at the same time of two crops from the farms, plus an abnormal, and often long-haul, movement from the terminal markets. . . . What the railroads have done in this respect in the winter months has been nothing short of extraordinary."

Urges Faster Unloading of Coal

The Office of Defense Transportation on February 15 issued an appeal to all receivers of coal to give special attention to the unloading of coal cars, pointing out that sporadic shortages of coal cars are showing up on various railroads. This condition is being aggravated by a cold wave sweeping over most of the northern part of the United States, the statement added.

"Coal is in very great demand in all parts of the country," the O. D. T. declared, "and the railroads will not be able to carry out fully their job of transporting coal unless all receivers unload coal cars as fast as it is physically possible to do so."

Cut Number of Cars Going to Canada

W.F.A. agrees to slow down its wheat movement for next 30 days

War Food Administrator Marvin Jones last week agreed that W. F. A.'s plans for the importation of 40,000,000 bushels of grain from Canada could be modified so that the number of United States grain cars sent into the Dominion to bring out the grain could be reduced from 200 to 100 a day for a 30-day period, provided the 200-a-day basis is then restored and maintained "at least until May 15."

The modification came out of the further conferences on the matter which were agreed upon at the February 7 hearing before the special Senate interstate commerce subcommittee investigating the railroad transportation situation in accordance with Senate Resolution 185. As noted in the *Railway Age* of February 12, page 358, where that February 7 hearing was reported, and in the January 22 issue's account of previous sessions, senators from the grain states have been protesting the diversion of cars to Canada at this time of car shortages and blocked elevators in the Northwest.

Sacrifice of Cars "Voluntary"—The cars are going into the Dominion under "voluntary" arrangements worked out by the Association of American Railroads after it developed that Director Eastman of the Office of Defense Transportation was prepared to call upon the Interstate Commerce Commission for a service order to carry out what he regarded as a binding W. F. A. certification calling for diversion of the equipment to the Canadian movement.

Upon being advised by Mr. Eastman of Mr. Jones' agreement to cut the daily quota to 100 cars, Senator Reed, Republican of Kansas, took occasion in his reply to the O. D. T. director to review the situation, at the same time threatening to sponsor what he might deem to be corrective measures if by March 15 (when he expects to return to Washington from a month's trip) the cars are still going to Canada and "any substantial portion of the present congestion and delay in the movement of American produced grain still exists." Specifically, he said these things will be done:

Legislation Threatened—"The Interstate Commerce Commission will be asked to exercise its jurisdiction and control over car service. It is our opinion that the final authority rests with the I. C. C. to determine the reasonableness of these service orders.

"If the situation is not otherwise cleared

up, upon my return, I shall take all the legislative steps available to reach it."

In the latter connection, Senator Reed had previously threatened that he and Chairman Wheeler of the committee on interstate commerce would sponsor legislation taking the certifying power from the W. F. A. With respect to the I. C. C.'s authority, he had said earlier in the letter to Mr. Eastman that he doubted "if the W. F. A. and the O. D. T. can supersede the I. C. C. in its control over these matters."

The letter got under way with Senator Reed giving Mr. Eastman his appraisal of W. F. A. presentations at the subcommittee hearings.

Such presentation, he said, involved "so many varying and contradictory statements that the committee has never been able to get a clear picture of the actual situation."

Federal Agencies "Stupid" — "For sheer stupidity in the handling of transportation facilities," he went on, "I have never seen a record equal to that made by the W. F. A. and the C. C. C. [Commodity Credit Corporation] in this particular instance. I have never seen the power of government agencies more abused to the detriment of American citizens."

From there the senator continued to a review of events leading to the "voluntary" arrangements finally worked out for the movement. An I. C. C. service order of the type O. D. T. was seeking, he said, "could not have been legally issued." As he sees it, the basic principles involved in the transportation phase of the situation were "clearly stated" by Interstate Commerce Commissioner Johnson in his letter to War Mobilization Director Byrnes [These Johnson letters were abstracted in the February 12 issue's report of the January 7 hearing].

"Stating it in my own way," Senator Reed said, "I support Colonel Johnson with this affirmation: An efficient and proper use of *inadequate* transportation facilities for the movement of grain requires that that grain most conveniently located for movement shall be given preference over grain located in distant areas and requiring more transportation facilities, power, cars, car days, car miles, etc. No other policy is susceptible of acceptance by anyone."

Reed Experienced in Grain—The senator had qualified himself to make the foregoing pronouncement with this statement: "I have had, as you know, the most extensive experience of any citizen of the United States not in the employ of the railroads, in the movement of grain crops, particularly out of the winter wheat belt. . . ." Later on he expressed at some length his disagreement with the O. D. T.-A. A. R. view that now is the best time to bring in the Canadian wheat, assuming that it must be brought in this year. In doing so he noted that among those of that opinion are R. E. Clark, manager of the Closed Car Section, Car Service Division, A. A. R.; J. H. Aydelott, deputy director of O. D. T.'s Division of Railway Transport, and C. H. Buford, vice-president, Operations and Maintenance Department, A. A. R. "Mr. Clark," the senator went on, "has had a fair amount of experience with this; Mr. Aydelott and Mr. Buford a limited amount. I have had more experience than any of them, perhaps as much experience as all of them combined."

Leading up to his threat of action unless the situation is cleared up when he returns to Washington, Senator Reed expressed the hope that it would be cleared up. "I know," he said, "it would be relieved more quickly if common sense could be used instead of the imposition of authority by men who do not know what they are doing. Our transportation facilities are inadequate for everything connected with the war program. Surely what facilities we have should be utilized in the most efficient way possible. That is all that the committee has ever urged and all that I have personally ever asked. We have found it impossible to get agreement on that policy, mainly, I fear, because the men before the committee do not know the subject with which they are dealing."

Eastman's Estimate—The Eastman letter to which Senator Reed was replying was sent February 11. In it the O. D. T. director told of the new arrangement for sending the cars to Canada, noting that at the further conferences the "experts" of the A. A. R., I. C. C., and O. D. T. still agreed that the grain should be brought in before May 15 to avoid conflict with the movement from farms of the new American crop.

In addition to the reduction in the number of cars going to Canada during the next 30 days, the new arrangements contemplate that W. F. A. will undertake to bring as much as possible of the Canadian grain to Duluth for partial movement by water; and that the "minimum" number of cars going into the Dominion each day may be exceeded "at the discretion of the A. A. R." The new arrangements, Mr. Eastman said, were due to the "urgent demand for American movement, augmented by the unanticipated surge of corn to market." At the same time the O. D. T. director called Senator Reed's attention to the fact that the box car balance "is still in favor of Canadian roads."

Senator Reed has also received copies of a February 10 letter which Mr. Jones wrote to Mr. Eastman, advising that W. F. A.'s certification had been amended to conform to the new arrangements; and of a February 11 letter which Mr. Eastman wrote to A. A. R. President J. J. Pelley, advising that the "voluntary" agreement to divert the cars should be modified accordingly.

F. B. I. to Aid in Drive Against Ticket Black Market

The Federal Bureau of Investigation will assist the Office of Defense Transportation in its campaign to stamp out black market operations in railroad accommodations, the O. D. T. announced February 10. F. B. I. field offices will transmit to the bureau's national headquarters all information received on passenger ticket scalping and profiteering. Washington headquarters will turn the evidence over to the O. D. T. for handling with local authorities.

Persons who have reason to believe they have been overcharged for transportation tickets obtained through agents other than the railroad themselves should report the case to local F. B. I. agents, or to municipal authorities, the O. D. T. said.

Replies from city governments specifically requested by O. D. T. Director Eastman, to investigate the passenger ticket black market indicate that local law-enforcement agencies will be on the alert for evidences of such operations. Investigations in many cities are already under way, letters from municipal authorities revealed, and five cities—Washington, D. C., Tampa, Fla., St. Louis, Mo., Cleveland, Ohio, and New Orleans, La.—reported that ordinances to prevent resale of railroad accommodations at exorbitant fees are being drawn up as a result of Mr. Eastman's letter. Several Florida resort cities—Miami, Miami Beach, Hollywood, Ft. Lauderdale, Palm Beach and West Palm Beach—reported that similar ordinances have been in effect since 1942.

One arrest has been made in New York under an ordinance passed in December, 1943, limiting resale profits on passenger transportation accommodations to $1.00.

New P. A. W. Divisions Set Up

Crude oil and petroleum product supply and transportation functions within the Petroleum Administration for War have been combined in a Supply and Transportation Division, while at the same time all distribution activities have been assigned to an enlarged Distribution and Marketing Division, it was announced February 10.

This realignment of functions makes the Supply and Transportation Division responsible for the movement of both crude oil and refinery products from supply areas to refineries and then to areas of distribution, it was explained. George A. Wilson, heretofore director of the Transportation Division, has been made director of the combined division, and Dene B. Hodges, of the Shell Oil Co., New York, has been appointed assistant director.

Second-Quarter Steel Allocations Announced

Domestic transportation will receive for this year's second quarter 1,812,000 tons of carbon steel or 94.5 per cent of the 1,917,325 tons requested by the Office of Defense Transportation. This allotment, accompanied by proportionate allotments of alloy steel, copper and aluminum, said the O. D. T. announcement, constitutes the largest amount made available since the O. D. T. became a claimant agency under the War Production Board's Controlled Materials Plan. This year's first-quarter allotment was 1,538,645 tons.

Included is material for the construction of 18,500 new freight cars, 6,500 fewer than the 25,000 O. D. T. requested but nevertheless enough, according to W. P. B., to absorb maximum capacity available for car building during the third quarter. In the latter connection, it was explained, the third-quarter capacity must be taken into account in setting the second-quarter allotments because of the "lead time", i.e., the time required to get the allocated materials delivered to car builders' plants.

Too Few Cars Orders—Meanwhile, the O. D. T. announcement pointed out that "orders placed to date by the railroads for new freight cars fall far short of potential

production capacity during the third quarter." It added that "unless the carriers expedite additional orders, the materials and plant capacity available for that quarter will not be fully utilized"; and "the same considerations apply to subsequent quarters."

Rail tonnage involved in the second-quarter allotment is the full amount requested by O. D. T.—550,000 short tons. Track accessories totaling 291,500 tons were also authorized, plus a further allowance to the Steel Division of W. P. B. for frogs, switches, and other "B" products for track work.

Likewise granted in its entirety was O. D. T.'s request for 137,000 tons of carbon steel for automotive replacement parts, a 47 per cent increase over the 93,000 tons granted for the first quarter. Also, "material requirements for local transport, motor transport, and waterways were met practically in their entirety."

"In view of the fact that the total amount of carbon steel allotted for the second quarter was close to the amount requested," the statement said in closing, "O. D. T. officials expressed the hope that all the materials allotted will be converted into finished products and slippages from production schedules eliminated."

Preparing for "D" Day

Invasion trains, now rolling off assembly lines in yards throughout Britain, are expected to reach an aggregate length of more than 50 miles before invasion day, according to British Information Services. American and British railroad men now work night and day, and production has been pushed to one freight car per 60 man hours.

Equipment includes 40-ton refrigerator cars, tank cars, troop-carrying cars, and flat cars for machinery, guns and other war materials.

In a typical assembly yard, work is divided into three eight-hour shifts, with 20 minutes allotted for lunch.

Fewer No-Bill Coal Cars Allowed

A growing tightness in the supply of open-top cars has led the Office of Defense Transportation, with the concurrence of the Interstate Commerce Commission, the Solid Fuels Administration, and the Association of American Railroads, to issue a rule restricting so-called no-bill ratings of anthracite coal mines to 50 per cent of rated capacity, an O. D. T. announcement disclosed February 11.

The effect of the new ruling, which becomes effective February 20, is to restrict to 50 per cent of their rated output the quantity of coal which mines may hold on cars without billing, it was explained, and it is expected to reduce the detention of cars under load with certain grades of anthracite and so contribute to the best use of available open-top equipment.

January Export Freight

Export freight, excluding coal and grain, handled through United States ports in January totaled 139,787 cars, compared with 85,344 cars in the same month last year, or an increase of 64 per cent, according to the Association of American Railroads.

Export grain unloaded at the ports totaled 3,244 compared with 2,411 in January, 1943, or an increase of 35 per cent. In addition, the railroads handled 1,104 carloads of coastal freight in January, compared with 727 in the same month in 1943, or an increase of 52 per cent.

The total of 144,135 cars of export and coastal freight, excluding coal, handled through the ports in January this year represented an average daily unloading of 4,650 cars, the highest on record. This average slightly exceeded the previous high of 4,636 cars established in November, 1943.

Promotions Made in O. D. T.

Joseph B. Eastman, director of the Office of Defense Transportation, has announced the promotion of Dr. G. Lloyd Wilson to the position of chief consultant on rates for the O. D. T. to serve on his personal staff as adviser on rate matters.

Dr. Wilson has served as director of the Division of Rates since its creation in December, 1941. Prior to that time, he was director of transportaton of the Office of Price Administration, and he has served several government agencies as consultant on transportation matters, including the U. S. Shipping Board Emergency Fleet Corporation, the Federal Coordinator of Transportation, the Federal Communications Commission and the National Resources Planning Board. He is professor of transportation and public utilities at the University of Pennsylvania, vice-president of the Associated Traffic Clubs of America, and a member of the Bar of Interstate Commerce Commission Practitioners.

John C. Howard has been appointed acting director of the Division of Rates. Mr. Howard, who has served as assistant director of the division since August, 1942, is on leave of absence from the general traffic department of the United States Rubber Co.

Harry Wilson, who has been serving as assistant to the director, has been promoted to assistant director of the Division of Rates. Mr. Wilson was vice-chairman of the Traffic Executive Association—Eastern Territory, with headquarters in New York.

Victor I. Gruber has been promoted from senior rate analyst to assistant to the director of the Division of Rates. Before joining the O. D. T. Mr. Gruber was chief of the Tariff Bureau of the Reading, in Philadelphia, Pa., and is on leave of absence from that company.

Four changes in the staff of its Rail-Truck Conservation section also have been announced by the O. D. T.

Leon Leighton, of New York, who has been acting as assistant to the director, has been promoted to assistant Eastern-Southern director. Prior to joining the O. D. T., Mr. Leighton practiced law in New York City. Charles B. Roeder, of Philadelphia, who has been district director in Philadelphia, has been promoted to the position of assistant Eastern director, which had been vacated by the appointment of Charles F. Caley as assistant director of the Division of Traffic Movement. Mr. Roeder will continue to make his headquarters in Philadelphia, but will have supervision over the entire territory east of Buffalo, N. Y., and Pittsburgh, Pa., and north of Washington, D. C. Mr. Roeder formerly was secretary of the Philadelphia Bourse.

Leo V. Funk, of New York, has been appointed district director in New York, with jurisdiction over New York State east of Buffalo, northern New Jersey and Connecticut. Mr. Funk was manager of station service of the Delaware, Lackawanna & Western, having been associated with that road since 1907.

J. Ralph Legg, of Chattanooga, Tenn., has been appointed district director at Washington, D. C., a new field office exercising jurisdiction over the States of Virginia, eastern West Virginia, North Carolina, and Tennessee (excluding Memphis). Since December, 1942, Mr. Legg has been in the transportation section of the Textile, Clothing and Leather Division of the War Production Board. Previously he was superintendent of station service on the Southern.

B. & M. Advertises Against Manpower Losses

Asserting that "you can't run as hazardous and as complicated a business as a railroad with a majority of green men," the Boston & Maine has begun what it terms an out-in-the-open approach to the question of manpower deferment. Its answer to those who attack army-age trainmen for being out of uniform, and who charge them with being slackers, comes in the form of an advertisement which now is being run in all newspapers along B. & M. lines.

Entitled "Who says, 'You Can't Fight with a Lantern?' ", the advertisement describes railroading as a "tricky business" . . . "where safe things to do are learned only by experience."

For the benefit of the uninformed, the message points out that there are now 3,053 of the 16,000 regular B. & M. employees now in the armed services. Moreover, many of the younger men have sought their release from the railroad, asking that the draft board be notified to cancel their deferments. The railroad reply, it is explained, has been "No," because "if all of them went, it would mean that there'd be chaos—accidents, delays in moving the many important things for fighting men which are being manufactured in New England's war plants."

The advertisement argues that "an experienced trainman on a passenger train isn't just a fellow who opens the door and yells 'Swampscott' and then waves a lantern." He must be familiar with scores of rules, signals and train schedules, that trains can speed with precision and safety. Nor can the experienced trainman on a speeding freight train, who performs his task with unnecessary delay and without accident, be spared. "It's far too important a job to trust entirely to inexperienced men, and it's a job that must have the alertness and the quick judgment of seasoned employees."

So, requests the Boston & Maine, "the next time you see one of our younger employees doing his most important part in the fight to win the war, we ask that you ponder a bit before you say, or think—slacker." "He's in fighting uniform right here at home," says the railroad.

GENERAL NEWS

1943's Net Income Was $897,800,000

Net railway operating income was $1,361,984,980—a 5.04 per cent return

Class I railroads in 1943 had an estimated net income, after interest and rentals, of $897,800,000, according to the Bureau of Railway Economics of the Association of American Railroads. The 1942 net income was $901,712,558.

Net railway operating income, before interest and rentals, amounted to $1,361,984,980, a decrease of eight per cent under the $1,484,469,651 reported for 1942. This drop, the A. A. R. statement pointed out, resulted from: (1) Increased operating expense due to higher labor costs resulting from wage agreements which were made retroactive to the early part of 1943; (2) Increased cost of materials and supplies; (3) Higher taxes; and (4) Action of the Interstate Commerce Commission in setting aside on May 15, 1943, increases in freight rates which had been effective since March 18, 1942.

Rate of Return Declines—"In the first quarter of 1943," the statement continued, "the net railway operating income was nearly 54 per cent above the same period in 1942. This percentage of increase gradually became less each month, however, and in June became a decrease. As a result, in the third quarter there was a decrease of 13.5 per cent and in the fourth quarter, the decrease was 43.2 per cent. The rate of return earned on property investment averaged 5.04 per cent in 1943, compared with a rate of return of 5.57 per cent in 1942."

Total operating revenue in 1943 amounted to $9,054,724,379 compared with $7,466,227,054 in 1942, an increase of 21.3 per cent. Operating expenses amounted to $5,653,192,656 compared with $4,601,463,051 in 1942, an increase of 22.9 per cent.

Class I roads in 1943 paid $1,851,235,248 in taxes, compared with $1,198,881,298 in 1942. Twelve Class I roads failed to earn interest and rentals in 1943; five were in the Eastern district, two in the Southern region and five in the Western district.

Results by Districts—Class I roads in the Eastern district in 1943 had an estimated net income of $372,200,000 compared with $368,734,235 in 1942. Their net railway operating income was $560,894,487, compared with $611,584,541 in 1942.

Operating revenues in the Eastern district in 1943 totaled $3,972,141,290, an increase of 15.5 per cent compared with 1942, while operating expenses totaled $2,612,142,339, or an increase of 18.7 per cent.

Class I roads in the Southern Region in 1943 had an estimated net income of $134,600,000, compared with $126,034,025 in 1942. Their net railway operating income was $198,224,942, compared with $217,713,927 in 1942.

Gross in the Southern region totaled $1,293,755,973, an increase of 22.9 per cent compared with 1942, while operating expenses totaled $753,418,913, an increase of 20.9 per cent above 1942.

Class I roads in the Western district in 1943 had an estimated net income of $391,000,000, compared with $406,944,298 in 1942. Their net railway operating income was $602,865,551, compared with $655,171,183 in 1942.

Operating revenues in the Western district totaled $3,788,827,116, an increase of 27.4 per cent compared with 1942, while operating expenses totaled $2,287,631,404, an increase of 28.7 per cent above 1942.

CLASS I RAILROADS—UNITED STATES
Twelve Months Ended December 31

	1943	1942
Total operating revenues	$9,054,724,379	$7,466,227,054
Total operating expenses	5,653,192,656	4,601,463,051
Operating ratio—per cent	62.43	61.63
Taxes	1,851,235,248	1,198,881,298
Net railway operating income (Earnings before charges)	1,361,984,980	1,484,469,651
Net income, after charges (estimated)	897,800,000	901,712,558

Departing from the usual form, the A. A. R. monthly statement this time did not show the December figures separately. At the same time, however, the Interstate Commerce Commission's Bureau of Transport Economics and Statistics issued its usual monthly summary, showing that December's net railway operating income was $76,927,148, a decrease of 55.9 per cent below December, 1942's $174,379,878.

Gross for December totaled $781,759,014, an increase of 11.2 per cent over December, 1942's $702,995,272—freight revenue being up 7.4 per cent, from $531,918,083 to $571,387,288, and passenger revenue up 27.2 per cent, from $119,150,730 to $151,548,201. But the total of operating expenses, taxes and rents was at the same time up 33.3 per cent, from $528,615,394 to $704,831,866.

Pullman Traffic 12 Per Cent Above January, 1943

Predictions of the Pullman Company that travel by rail during 1944 may surpass even the unprecedented levels of last year are borne out by preliminary reports for January, in which the company's military and civilian traffic burden reached an estimated 2.3 billion passenger-miles, according to George A. Kelly, vice-president. This approximates the all-time monthly sleeping car record set last August, and is about 12 per cent above January a year ago, he said.

Why the New Haven Would Like to Fly

Palmer believes move would be competitively healthful, and benefit public

Were the present ban in surface carriers engaging in aviation lifted, the New Haven Railroad "should soon be able to announce the formation of a co-ordinated rail-air-highway system to serve southern New England," Howard S. Palmer, president and trustee of that company, told members of the Advertising Club of New York, February 16. The railroad's contribution to such a union would "progress any airline we tie in with by years," he said, pointing to an established knowledge of the territory, and the needs and problems of shippers, resort owners and travelers alike.

"This refusal to allow us to enter the aviation field is the first instance in the history of America that the railroads have been barred from the development of a new mode of transportation," stated Mr. Palmer, and "we sincerely hope that public opinion will raise its voice in protest against such discrimination."

Those who would deny the railroads a "fair place in the transportation of tomorrow, for fear of a railroad monopoly, are in effect creating an even greater air monopoly," President Palmer cautioned.

"You may be wondering why we want to be in the air business," the speaker continued, and assured his listeners it was not to "stifle it," as some had suggested. "Nothing," he insisted, "can hinder the development of air transportation in this country. It is not the American way to obstruct the development of any invention merely because it encroaches upon established methods or services. If it were otherwise, we would still be riding in stage coaches."

Granting that the New Haven naturally desires to protect its investments, Mr. Palmer asserted the way to protect them is to "give the shippers and travelers of New York and southern New England opportunity to ship and travel by the method best suited to their needs. "These shippers and travelers are our customers now and, like other business men, we want to keep them. We want to have the right," he said, "to offer them these new services—in competition, if you please, with other legitimate airlines that can obtain licenses to operate in our territory."

It is his belief that the New Haven can offer shippers and travelers of New York and southern New England "a better, more efficient, more dependable service at lower cost—through co-ordination of all three

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Raise Would Have Cost $57¼ Million in '43

Would have cut n.o.i. by only that amount, I.C.C. Bureau says

Last year's net railway operating income would have been only about $57,269,000 below the $1,361,976,124 actually reported if the year-end wage increases had been in effect throughout the 12 months, according to computations made by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics in the latest issue of its Monthly Comment on Transportation Statistics.

It is pointed out that application of the increases to the 1943 payroll would have increased last year's wage bill by about $370,000,000, of which about $348,000,000 would have been chargeable to operating expenses. Meanwhile, however, the railroads included in last year's operating expenses accruals totaling $214,785,000 in anticipation of the retroactive phases of the adjustment. Thus total operating expenses "would have been higher than actually reported by $133,215,000."

Income Tax 60 Per Cent—"However," the Bureau continues, "social security taxes would also have been higher and income taxes would have been lower; and as a result the reduction in net railway operating income from extending the retroactive wage payments to the full year would have been about $57,269,000 below the actual amount reported. This computation involves the assumption that federal income taxes are 59.84 per cent of the net income before the deduction of such income tax."

Having set out the foregoing, the Bureau then warns against its use as a basis for too much future estimating. It says: "An attempt to adjust the actual net earnings of 1943 to reflect the present or prospective conditions would require consideration of other matters also, such as the volume of traffic, the extent to which maintenance *charges* are abnormal, the fact that the freight rate level was higher from January 1 to May 15, 1943, than at present, and the rise in the cost of materials. It may be noted also that the wartime operation of 1943 was more expensive compared with operation in a year of peace because of the large amount of work that was done at overtime rates."

$100 Millions More for Overtime—In the latter connection it is pointed out that the one-third "penalty" involved in time-and-one-half rates was equivalent to 4.5 per cent of the total compensation of hourly employees in October, 1943, whereas it was only 1.3 per cent in October, 1941. The rise from 1.3 to 4.5 "means an increase in operating expenses of about $100,000,000 a year with present employment."

Commenting on the 1943 financial results, which are set out in the Association of American Railroads statement published elsewhere herein, the I. C. C. Bureau calculates that last year's net railway operating income was "equivalent to 6.07 per cent of the combined property investment on December 31, 1942, of the Class I line-haul carriers and their lessors and proprietaries minus the accrued depreciation shown in the accounts and plus an arbitrary allowance of $500,000,000 for working capital, a total of $22,444,634,000." It adds: "If this calculation should be made before the deduction of the $1,337,496,802 accrued as federal income taxes, the amount of the net railway operating income would be $2,699,472,926 and the rate of return would be 12 per cent."

Traffic Index Numbers—The Bureau's freight revenue index for December was 220.5, up 9.1 points from November's 211.4 and the highest since October's 229.3. The passenger revenue index at 422.6 was down 18.1 points from November's 440.7. Index figures are based on 1935-39 averages as 100, adjusted for seasonal variation.

An analysis of comparative 1940 and 1943 data on the percentage distribution of tons originated and tons terminated by commodities and by districts indicates that wartime shifts have been relatively small, thus leading the Bureau to the general conclusion that "a return to peace will not on the whole cause a marked change in the geographical distribution of economic activity."

Fuel Efficiency Falls—Data on fuel and power consumed in road freight service per 1,000 gross ton-miles show a drop in efficiency—November, 1943, compared with November, 1940. The equated pounds of fuel per 1,000 g.t.m. for all road freight locomotives last November was 118, an increase of two pounds above November, 1940's 116. The breakdown shows that for steam locomotives the pounds of coal per 1,000 g.t.m. were up from 119 to 123 while the gallons of fuel oil per 1,000 g.t.m. were down from 8.48 to 8.4. For electric locomotives, the kilowatt hours per 1,000 g.t.m. were up from 28.53 to 29.44.

Another November, 1940 — November, 1943, comparison covers the change in the proportion of freight yard switching performed by Diesel-electric locomotives. It shows an increase from 9.82 per cent to 17.65 per cent in the proportion of switching hours performed by Diesels, the coal-burning steam locomotive's proportion dropping from 78.2 per cent to 70.27 per cent. The number of hours per yard locomotive-day of coal burning steam locomotives in November, 1943, was 11.2 compared with 9.4 in November, 1940, an increase of 19 per cent. Meanwhile the daily availability of gasoline, gas-electric and Diesel-electric locomotives rose one per cent, from 19.1 hours to 19.3 hours.

B. I. R. Gets New Chairman and New Home

Robert E. Webb of Kentucky has been appointed by President Roosevelt to be chairman of the Board of Investigation and Research created by the Transportation Act of 1940. He has been vice-chairman since the organization of the board and acting chairman since last October when former Chairman Nelson Lee Smith resigned to accept a Presidential appointment to the Federal Power Commission.

The board will move about March 1 from its present Washington offices in the Dupont Circle building to 462 Indiana Avenue, N. W.

Gets River Money Sans Congress Okay

Budget Bureau shifts funds to projects for which no money is granted

Appropriations totaling $46,800,000 for rivers and harbors work during the fiscal year ending June 30, 1945, are carried in the War Department Civil Functions Appropriation Bill which was reported from the House committee on appropriations on February 15. This amount, an increase of $3,835,000 above the $42,965,000 appropriated for the current fiscal year, is the same as the estimate submitted by the Bureau of the Budget in January.

Of the fiscal 1945 appropriation, $3,630,000 would be for new work and $43,170,000 for maintenance and operation of existing projects, surveys and contingencies. In addition the bill continues the availability of $782,750 of an unobligated balance of $1,482,750 from previous rivers and harbors appropriations, but repeals the remaining $700,000 of such balance.

Avoids Congress' Sanction—In the latter connection the record of hearings on the bill before an appropriations committee subcommittee reveals that in at least two instances the Army's Corps of Engineers secured from the Bureau of the Budget a revocation of a Congressional allotment of funds to specific projects, applying the money thus made available to other projects for which no specific appropriation had been made.

Major General Reybold, chief of engineers, said that in those matters the Army was "functioning, in my judgment, as we have functioned in years gone by." But the committee's report had this to say: "The repeal course is advocated with respect to rivers and harbors and flood control (general) balances, because otherwise they would be available for financing, wholly or partly, without congressional consideration or sanction, and that has occurred in a number of instances, although it must be said the projects themselves had been authorized by law and, in some cases, appropriations had been made for or on account of their accomplishment. Such practice, however, is tantamount to turning over authority to appropriate to the Bureau of the Budget."

Survey of Florida Canal—The matter was developed at the subcommittee hearings to the point where Major General Reybold went on record to the effect that the Army had no funds available which could be used for the construction of the proposed Florida Canal. Under questioning by Representative Engel, Republican of Michigan, the general finally put it this way: "No specific authority has ever been granted for the application of river and harbor funds for the construction of the Florida barge canal." Meanwhile, however, $1,000,000 of funds heretofore made available for surveys of post-war projects has been allocated to a survey of that canal. While such surveys have been made on the

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New Classifications Have Few Supporters

Varied exceptions are filed to examiners' proposals in No. 28310 proceeding

As the February 15 deadline was reached for filing with the Interstate Commerce Commission exceptions to the recommendations made by Examiners Paul O. Carter and William J. Koebel in their proposed report in the No. 28310 investigation of the Consolidated Freight Classification, evidence of disagreement with the examiners' views appeared from many sources.

As described in *Railway Age* of December 11, 1943, page 933, the proposed report suggested that the commission require the country's railroads to put into effect a uniform freight classification, with ratings applicable throughout the country, based on 30 classes designated in percentages of the present first class, or class 100. The report further proposed that such a requirement be imposed coincidentally with class rates to be prescribed in the No. 28300 proceeding, in which no report had been issued when the exceptions were filed.

Is Public Interested?—The views of the Class I roads of the Western District, as expressed in their brief, were developed in part from the argument that the examiners' report rests less on the nature and scope of the case, as presented in the record, than on an "overestimate of public interest in uniformity." These roads asserted that the report errs in holding that mere differences in classification ratings are sufficient to prove undue preference and prejudice, and proceeded to the point that, in the absence of evidence of unreasonableness, there exists no lawful basis for the use of a formula effecting reductions in existing ratings.

Moreover, the western roads said further, the examiners have used classification exceptions in determining ratings to be established, although such exceptions not only were excluded from the investigation but, in addition, have no relevancy to classification principles. Continuing to expound their position in opposition to the proposed uniform classification, these roads questioned whether the commission's responsibilities under section 15 of the Interstate Commerce Act would be properly discharged if the report should be adopted. By means of specific examples, their brief undertook to show how actual application of the proposals would produce, as it was expressed, "strange, startling and unjustifiable results."

Unreal and Arbitrary—Taking a similar position in opposition to the recommendations of the proposed report, the brief of the Official Territory roads conceded that "uniformity by fiat could be achieved," but went on to assert that "true uniformity is simply beyond the realm of attainment if the commission is to follow the principles of the Interstate Commerce Act and deal fairly with shippers and carriers." There is, the brief said, "a sense of unreality about the proposed report suggesting as it does an arbitrary method of achieving uniformity to be used in conjunction with an unknown system of class rates, which makes it difficult to deal adequately with the important issues raised by the commission's investigation in this proceeding" and in No. 28300.

The brief then went on to argue its propositions that the commission should not separately consider classifications and class rate structures; that the examiners erred in the treatment of exception ratings, for "it was definitely understood throughout the proceeding that the lawfulness of the exception ratings was not in issue;" that the recommendations "would result either in unwarranted increases in rates or severe reductions in revenues, the extent of either being unascertainable without knowledge of the rates to be prescribed in 28300;" and that there is no basis for a finding of undue and unreasonable preference or advantage with respect to the existing ratings.

"Firm Against Clamor"—The brief filed on behalf of the states of New York, New Jersey, Pennsylvania, Maryland, and "various chambers of commerce and commercial organizations in Trunk Line Territory" called upon the commission to "stand firm against political clamor," and to be governed "solely by a critical and impartial weighing of the evidence." This group is satisfied that such an approach would convince the commission that not only is there "no evidence to support the ultimate findings of the examiners," but there is in the proposed report "a complete absence of other findings, essential, as a matter of law, to a conclusion such as that recommended."

Why the Inflexibility?—A group of "Southern industrial interests," whose views have not been expressed by the southern governors in their agitation for uniform class rates, took the position that "there is no warrant in law or fact for the sweeping and revolutionary changes recommended" by the examiners. They did not agree with the examiners' premise that existing classifications are outmoded, and they particularly objected to the "whole philosophy of ratemaking" which they saw implied in the recommended uniform set-up, that is, as they stated it, that there should be prescribed a strict uniformity of relationships to be enforced under rigid and inflexible rules, with provisions for departures to be made only under strictly limited considerations.

The commission, this group asserted, "is not empowered to condemn even an individual rate schedule, much less a whole classification, merely because it might be of the opinion that something else would be better. It can only condemn what is unlawful," and, it went on to say, there is no evidence in the record to enable the commission to determine whether any part of the existing classifications is unreasonable. The commission's power to direct the roads to institute a uniform, or generally new, classification was further questioned in this and other briefs, and the examiners' proposal that uniformity could be brought about through action under section 3 of the act was termed "wholly untenable."

Views of Shippers—A group of textile manufacturers, including the American Cotton Manufacturers Association and state organizations in this industry in North

(*Continued on page 403*)

Says Roads Blocked Technical Progress

Antitrust Division charges there has been delay on air conditioning

"Notwithstanding their admirable efforts to meet the present crisis," the railroads "are handicapped in regard to their equipment, facilities and techniques because of certain policies and practices" involving "restrictions on the adoption and use of new technological developments," Wendell Berge, assistant attorney general in charge of the Department of Justice's Antitrust Division, charged last week. He made his accusations at hearings before the Senate Committee on military affairs' subcommittee on war mobilization which has before it a bill (S. 702) to create an Office of Scientific and Technical Mobilization. The Pullman Company promptly issued a news statement refuting Berge's allegations.

Recapturing the Bloom of Youth—The subcommittee is headed by Senator Kilgore, Democrat of West Virginia, who got last week's series of sessions under way with a statement which chided the railroads a bit for having "lost their resiliency and youth," but nevertheless expressing the senator's confidence that the industry will now "break with the traditions it has followed for a quarter of a century." As the senator sees it, "Great technological opportunities lie ahead. Among them are modernized light equipment, the adoption and adaptation of radio intercommunication, and the universal use of roller bearings on all equipment."

The presentation of Assistant Attorney General Berge, as he summed it up himself, was designed to show that:

(1) In conformity to the so-called Western Agreement, competition among the railroads in western territory was almost totally suppressed in these respects:
(a) Technological improvements were delayed;
(b) In particular, the adoption of air conditioning equipment was delayed;
(c) New services were curtailed;
(d) Competitive schedules were eliminated; and
(e) Rate reductions were prevented.
(2) The Pullman Company used its monopoly of the sleeping car business to make the railroads pay the additional cost of adopting new-style lightweight sleeping cars in place of the old-style heavyweight Pullmans, and otherwise restrained the adoption of new transportation equipment.
(3) The railroads, through their wholly-owned subsidiary, the Railway Express Agency, have kept up air rates and restrained the development of the air transport of goods.

That "Western Agreement"—Discussing the foregoing in turn, Mr. Berge first explained the Western Agreement which was in effect from December 1, 1932, until April 23, 1943, "when it was reputedly canceled . . . after the Department of Justice, having just discovered its existence, addressed an inquiry to the Western Commissioner," who administered the agreement. Outlining his interpretation of the agreement and its purposes, Mr. Berge pointed out that matters not disposed of by the commissioner could be referred to a committee of directors which met regularly at "40 Wall Street, New York."

Coming to the air-conditioning phase of his presentation, the assistant attorney gen-

eral stated that while there had been some experimenting with air conditioning of dining cars on the Atchison, Topeka & Santa Fe and the Chicago & North Western in 1931, "the first real air conditioning west of St. Louis came in the summer of 1932 with the air conditioning of dining cars on five trains." He then went on to use material from the Western Commissioner's correspondence file to build his story of how the Western roads sought to develop an agreed-upon program for the timing of air conditioning installations.

Cool Cars Retarded?—In Mr. Berge's story was an account of early 1933 meetings out of which came a decision of the commissioner, "carrying out a compromise" embodying a "reduced program of air conditioning" for 1933. Also, there was the commissioner's January 2, 1934, letter to the committee of directors, advising them "of the activities of the railroads against the spread of air conditioning in 1934." That was followed by a February 1, 1934, letter wherein the commissioner reported on a January 5, 1934, meeting of the Western Association of Railway Executives, telling the committee of directors that "as a general practice air conditioning will not be extended to sleeping car equipment this year."

After 1934, Mr. Berge said that "restrictions on the installation of air conditioning equipment were relaxed." He added, however, that "until March 29, 1937, the railroads were required to give 60 days notice to the chairman of the Western Association of Railway Executives before placing air-conditioned equipment in operation."

Pullman's Caution Eyed Askance—He then took up the late-1934 arrangements for the creation of a pool of air-conditioned Pullman equipment, pointing out that the plan was calculated to restrict the use of the air-conditioned Pullmans to Western roads which were members of the Western Association of Railway Executives. He went on to charge that the Pullman Company made the air-conditioned cars available only under "supplementary agreements for the quick amortization of Pullman's investment in air-conditioning Pullman's equipment." "The ability of the Pullman Company through its monopolistic power to carry out this policy of shifting most of the cost of air-conditioning Pullman equipment in large measure to the contracting railroads undoubtedly had the effect of deterring the railroads from asking for as much air-conditioned equipment as they would otherwise have used," he added.

Turning to "other restrictions practiced under the Western Agreement," Mr. Berge found that the commissioner had been "active in suppressing any competitive tendency on the part of the western railroads to compete with each other by establishing speedier service." Moreover, it seems, that the introduction of "new recreational features into railroad travel" was retarded by a September 4, 1936, resolution wherein signatory roads to the Western Agreement bound themselves to give each other eight months notice of intent to provide "a recreation car on a regular passenger train, specifically for such purpose as dancing, athletic exercise, motion pictures, etc."

Scores Rate-Making Practices—The Antitrust Division's story on rate-making in the transportation field was told last year at the Senate interstate commerce committee hearings on the bill to regulate activities of carrier rate bureaus; but Mr. Berge told it again in summary fashion. In that connection he cited various specific instances of the commissioner's interest in rate matters, thus undertaking to make his point that it was "a central objective of the Western Agreement" to block off competitive influences "which might result in rate reductions that would depress railroad earnings."

Mr. Berge then left the Western Agreement to "retry" before the committee the anti-trust proceeding against Pullman, Inc., which the government has won in the lower courts. With "facts . . . largely based upon the record developed in the trial," he argued his proposition that "the introduction of the new type light-weight, high-speed trains was seriously hampered by the determination of the Pullman Company to continue the use of its old heavy-weight equipment even beyond the time when that equipment was fully depreciated."

Meanwhile, he asserted that Pullman interpreted its exclusive operating contracts "so as to prevent the railroads from securing their own light-weight sleeping cars from independent manufacturers." He added that it was "entirely successful in maintaining this position, with the exception of 15 sleeping cars acquired by the Burlington and Santa Fe from the Edw. G. Budd Manufacturing Company."

Senator Murray, Democrat of Montana, suggested that the presentation on the alleged Pullman "monopoly" was "ancient history" in view of the court's decision in the anti-trust case. And Mr. Berge said he hoped that would prove to be so.

Air Express Rates Decried—The assistant attorney general then proceeded to talk briefly about the air express contracts, asserting that air-express rates are "high" only because the contracts with the Express Agency "eliminated competition between the air lines to originate air cargo." He concluded with a hint of things to come, saying that other transportation investigations under way "have not sufficiently progressed to warrant an expression of views."

In the latter connection, Senator Kilgore asked if the Antitrust Division were conducting any investigations in the field of railway signaling and communications. Mr. Berge replied that the division has under consideration "certain arrangements between the two companies which manufacture this type of equipment." Herbert Schimmel, the subcommittee's chief of investigations and hearings, asked is anything had turned up with respect to the withholding of radio communication facilities from railroad operations. Mr. Berge said he was "not aware" that anything like that would be developed in the inquiry; and he added that there should be no inference from his reference to the signaling investigations that they would turn up any violation of law.

Meanwhile, Mr. Schimmel had introduced various exhibits. They included a statement, by the Timken Roller Bearing Company and material submitted by Chairman Patterson of the Interstate Commerce Commission in response to the committee's request. The latter covered cases wherein the I. C. C. has recommended installations of signaling facilities; data showing the status of the program for equipping all cars with AB brakes; and recent accident reports.

Brakes and Train Phones—In offering the accident reports, Mr. Schimmel also offered his own comment to the effect that some of the accidents could have been prevented if the AB brakes had been installed more rapidly; others could have been avoided if train-to-train radio communication had been available; while still others might have been prevented by various signaling devices.

The second and final witness at last week's series of sessions was William S. Halstead, president of the Halstead Traffic Communications Corporation, "a small engineering corporation developing communications equipment, principally radio, in the transportation field." Mr. Halstead told of the use of radio in yard operations, mentioning the experiment that was conducted at Proviso Yard and the installations in yards at Army ordnance plants.

He saw a bright future for radio communication on the railroads, but he supplied no basis for a charge that the railroads have stifled this development. He admitted that equipment for main-line operations has not been perfected; and when it is he anticipates "no problem in getting the cooperation of some railroads to test it out." Mr. Halstead does not foresee that radio will replace existing signaling equipment. He rather thinks that it will supplement present systems, providing greater safety. He also expects to see radio used in highway transportation, supplementing traffic signals and promoting greater safety there, too.

Pullman's Statement—David A. Crawford, president, Pullman Company, issued the following reply to the charges made by Mr. Berge:

"While we have not had opportunity to read or examine Mr. Berge's statement, the charges that Pullman restrained the adoption of streamlined lightweight equipment, as reported in the press, do not square with the plain facts. First of all, Pullman created and built the first lightweight, streamlined articulated train almost exactly ten years ago. In that ten-year period, during the course of the worst economic depression in history, Pullman invested more than $80,000,000 in air-conditioning, adding to and modernizing the Pullman fleet, of which $47,191,625 was invested in 609 new type lightweight sleeping cars.

"During this period, eight different car-building companies built a total of 2,116 lightweight passenger train cars, of which 71 per cent were Pullman built, reflecting Pullman's progressiveness and leadership in railroad passenger transportation, and indicating the confidence of the railroads in soundness of Pullman design.

"The Pullman Company in 1943 handled by far the greatest volume of passenger traffic for any year in its history and all previous transportation records were broken by the Company in the performance. This traffic volume amounted to 26 billion passenger miles. This was an increase of 36 per cent above the previous record year 1942, over three times what it was in 1940, and more than double the volume moved in 1917, the peak year of World War I.

"Approximately one-half of the Pullman car fleet was continuously engaged throughout 1943 in transporting 10,000,000 members of the armed forces, a total distance of 12 billion passenger miles. Pullman sleeping cars have thus carried in organized movements approximately 17,500,000 troops a total distance of 20 billion passenger miles since America's entry into the War.

"The capacity of the Pullman fleet has proved more than ample in peacetime in caring for the fluctuating needs of the American railroads and the public for sleeping car facilities, and in wartime, although Pullman has only about 11 per cent of the normally-rated passenger carrying capacity of the U. S. railroad system, it has car-

ried approximately 66 per cent of all troop movements.

"With about the same amount of equipment, since the production of new cars has been almost completely restricted by other war production needs, Pullman and the railroads it serves have carried during the war *three* to *four* times the burden of average pre-war years. This fact appears to be a clear and active refutation of charges of 'limited capacity.' In wartime, there is never a surplus of what is needed for victory."

Berge Refuted Heretofore—The statement by Mr. Johnson read as follows:

"The whole matter of the western commissioner agreement was gone into last summer in hearings before the Senate committee on interstate commerce. At that time similar charges were made by the antitrust division of the Department of Justice which were completely answered by Joseph B. Eastman, director of defense transportation; R. V. Fletcher, vice-president of the Association of American Railroads; and by the statement of W. Averell Harriman, chairman of the Union Pacific, which was read into the record.

"The charge that railroads have retarded technological development is wholly unfounded. Railroads led the field in the development and use of both air-conditioned passenger equipment and streamlined light-weight passenger trains and Diesel locomotives. The western agreement was merely the means utilized to afford sound and orderly programs of improvement and resulted in promoting rather than retarding development.

"The agreement itself was a product of the depression. It was adopted by the western roads in an effort to comply with principles announced by the Interstate Commerce Commission in one of its opinions, and it made an important contribution to the ability of the carriers to turn in the wonderful record of performance they are accomplishing today.

"In April of last year, when the validity of the contract was challenged, it was promptly cancelled and terminated. It was felt that under present conditions, the contract was unnecessary, and that it was the duty of the railroads to devote their effort and attention to the accomplishment of the wartime transportation job."

Wants Block System Put In

Pointing out that seven accidents had occurred, and the deaths of 10 persons and the injury of 139 had resulted, on the Seaboard Air Line in a 22-month period under circumstances that led the Interstate Commerce Commission to recommend that the road establish "an adequate block system" in the territory involved, the commission again made such a recommendation in its report, prepared under the direction of Chairman Patterson, of a head-on collision January 8 at Emory, Ga., 10 miles north of Atlanta, in which one employee was killed and 22 passengers and 10 employees were injured.

The accident occurred at 1:52 a. m. in rainy weather on a 2 degree curve. It involved a northbound freight, made up of 18 cars and caboose, and a southbound second class passenger train, made up of 10 passenger train cars of steel construction and a caboose. Trains were operated in that district by timetable and train orders, with a manual block system on for following passenger trains, and the direct cause of the collision, according to the commission's report, was a lap in authority of two opposing trains, resulting from an error in handling a telephone train order. During the preceding 30 days, the average daily movement of trains in the vicinity was 19.9 trains.

Examiner Recommends Basis for East-West Divisions

Examiner Arthur R. Mackley has recommended in a proposed report that the Interstate Commerce Commission prescribe a basis for divisions of joint rates applicable between Official and Western Trunk Line territories. The proposed report is in the Nos. 28277 and 28589 proceedings.

"The issue here," as the examiner put it, "is the reasonableness of the divisions between the carriers in Official and Western Trunk Line territories (including Wyoming and Utah in the latter description), of the rates prescribed in *Western Trunk Line Class Rates,* 164 I. C. C. 1; 204 I. C. C. 595 (sixth supplemental report); *Public Service Comm. of Wyo. v. Atchison T. & S. F. Ry. Co.* 196 I. C. C. 413; and *W. H. Bintz Co. v. A. & S. Ry. Co.,* 216 I. C. C. 481. The basic adjustment was prescribed in the case first cited, the order in which became effective December 3, 1931. The findings in the second case merely extended the territory of application of the general basis, prescribed in the Western Trunk Line case, to include Wyoming, effective September 20, 1933. The findings in the third case further extended the territory to include Utah common points, and became effective June 30, 1938. The present proceeding is the result of failure of the eastern lines and certain of the western lines to agree on a permanent basis of divisions for carload traffic. An agreed permanent basis for less-than-carload traffic is now in effect for the account of all eastern and western lines."

Divide at Interchange Points—The division basis which the examiner would have the I. C. C. prescribe requires that the rates divide on points of interchange between eastern and western carriers rather than on geographical boundaries of rate territories; that combinations of intermediate rates, applicable when lower than joint rates prescribed in the cases cited, be considered as joint rates to be divided upon the same basis as the one-factor joint rates; and that the cost of river transfer at St. Louis-East St. Louis be borne by eastern lines on westbound shipments and by western lines on eastbound shipments.

Also, the examiner would have the commission find that the petition of all eastern and western lines, filed with the commission December 5, 1931, two days after the effective date of the rates prescribed in *Western Trunk Line Class Rates,* asking the commission to institute an investigation with a view to the prescription of a reasonable basis of divisions of those rates but to hold the proceeding in abeyance until further advised by the carriers, or a group of them, does not have "the status of an informal complaint, as affirmatively alleged in No. 28589, filed November 27, 1940, warranting retroactive application to December 5, 1931, of the divisional order herein prescribed."

N. I. T. League Hurls Blast at Legislative Rate-Making

The opposition of the National Industrial Traffic League to legislation designed to impose so-called uniform freight rates has been further expressed in a recent statement pointing out that 12 bills and two resolutions to this effect are now pending in Congress.

"These bills," it explains, "would deprive the Interstate Commerce Commission of its authority to make freight rates in keeping with prevailing conditions in industry and agriculture. Territorial relationships and the needs of industry would be totally disregarded."

In place of the flexible rate structure under which commerce and industry have developed, the N. I. T. League went on to say, it is now proposed to make freight rates "uniform," and then require industry to "fit itself into the new rigid pattern." The method of permitting the commission to determine just and reasonable rates, after public hearing, would be discarded, it explains, and, under the bill sponsored by the southern governors, a scale for uniform application would be prescribed, after which any departure would require application and hearing, so that the present simple procedure of filing a tariff, effective, frequently, on short notice, where shippers and carriers are in agreement as to the change involved, no longer would be available.

Pension Act Amendment

Representative Sikes, Democrat of Florida, has introduced H.R. 4188 to liberalize the Railroad Retirement Act with an amendment providing annuities for permanently disabled railroaders who have completed 15 years of service.

Oil Land Reverts to Los Angeles & Salt Lake

A strip of land 600 ft. wide along the Cerritos channel, under which oil lies, must revert to the Los Angeles & Salt Lake, according to a ruling handed down by the Circuit Court of Appeals in San Francisco, Cal., on January 31. The decision, which reverses a ruling made by a Federal District Court in 1943, was based upon the terms of deeds given the federal government in 1908 and 1918 by the railway which set forth that the land should return to the company if it were used for any purpose other than a free channel.

Several years ago, oil and gas were discovered on the property between Los Angeles and Long Beach harbor and the government granted oil rights and received royalties. The railroad asked for the return of the property and the government filed suit to quiet its title.

January Employment 2.98 Per Cent Above January, 1943

Reversing its trend, total railroad employment increased 0.57 per cent—from 1,351,014 to 1,358,778—during the one-month interval from mid-December to mid-January, and thereby reached a level 2.98 per cent above that of the comparable 1943 date, according to the latest summary of preliminary reports prepared by the Bureau of Transportation Economics and Statistics of the Interstate Commerce Commission. The index number, based on the 1935-1939 average as 100 and adjusted for seasonal variation, was 138.4 for January, as compared with 134.5 for December and 134.4 for January, 1943.

January employment was below December's in three groups, the executives, officials and staff assistants, and two of the transportation groups, that of other than train, engine and yard employees (which showed the largest decrease, 0.64 per cent), and that of train and engine service. Increases in the other groups ranged up to 1.43 per cent for the maintenance of way and structures group, which was almost matched by the maintenance of equipment and stores group, where the increase was 1.42 per cent.

As compared with January, 1943, all groups were up, except the maintenance of

way and structures class, where a decrease of 1.9 per cent was reported. The increases varied from 1.34 per cent in train and engine service to 6.92 per cent for the "other than train, engine, and yard" category of transportation employees.

Freight Car Loading

Loadings of revenue freight for the week ended February 12 totaled 795,262 cars, the Association of American Railroads announced on February 17. This was a decrease of 10,813 cars or 1.3 per cent below the preceding week, an increase of 29,991 cars or 3.9 per cent above the corresponding week last year, and an increase of 12,561 cars or 1.6 per cent above the comparable 1942 week.

Loading of revenue freight for the week ended February 5 totaled 806,075 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

For the Week Ended Saturday, February 5

District	1944	1943	1942
Eastern	157,276	151,200	165,685
Allegheny	177,675	164,250	172,770
Pocahontas	56,274	51,874	47,702
Southern	128,366	120,715	124,865
Northwestern	89,822	79,342	94,690
Central Western	124,611	114,363	116,223
Southwestern	72,051	73,770	62,027
Total Western Districts	286,484	267,475	272,940
Total All Roads.	806,075	755,514	783,962
Commodities			
Grain and grain products	55,270	52,018	41,317
Live stock	15,336	12,692	10,414
Coal	183,142	174,154	153,052
Coke	15,081	14,869	14,063
Forest products	46,271	37,260	47,146
Ore	14,871	15,328	13,405
Merchandise l.c.l.	102,475	91,498	151,718
Miscellaneous	373,629	357,695	352,847
February 5	806,075	755,514	783,962
January 29	811,062	734,670	815,565
January 22	798,722	703,294	818,081
January 15	780,220	755,498	811,327
January 8	762,999	717,176	736,972
Cumulative Total, 6 Weeks	4,602,552	4,287,325	4,642,441

In Canada.—Carloadings for the week ended February 5 totaled 67,802 compared with 69,070 for the previous week and 62,256 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
February 5, 1944	67,802	39,272
January 29, 1944	69,158	39,079
January 22, 1944	70,106	39,070
February 6, 1943	62,256	38,593
Cumulative totals for Canada:		
February 5, 1944	337,702	190,446
February 6, 1943	289,495	176,729
February 7, 1942	309,561	157,849

I. C. C. Service Orders

The Interstate Commerce Commission's Service Order No. 182, effective February 15, prohibited movement of refrigerator cars loaded with potatoes, other than sweet potatoes, from any point in Florida to any point west of the Mississippi river from its mouth to the Illinois-Wisconsin line (except St. Louis, Mo.), or north of the Illinois-Wisconsin line, or west or north of Lake Michigan to St. Ignace, Mich. Acceptance of reconsignment or diversion orders which would require such movement also was banned. The order was issued to reduce unnecessary use of refrigerator cars, the commission indicated.

The requirements of Service Order No. 180, by which increased demurrage charges on refrigerator cars were made effective, have been clarified by Amendment No. 1 to that order, effective February 16. The amendment provided that the prohibition concerning average agreements should prevent detention of refrigerator cars held for unloading being included in any average agreement, but other demurrage rules remain in force, and specifically stated that the terms of the order applied to detention of any refrigerator car held for any purpose, except loading, at any inland point or any port, whether for domestic delivery or transshipment by water. The effective date of Service Order No. 180 was postponed to February 16 by Service Order No. 180-A.

By Amendment No. 2 to Service Order No. 178, effective February 17, the commission has added palm or palmetto leaves or buds to the list of articles which may not be transported in refrigerator cars under the terms of that order.

New Classifications Have Few Supporters

(*Continued from page 400*)

Carolina, South Carolina, Georgia, and Alabama, were willing to subscribe to the principle that uniformity of classification ratings is desirable, but they argued that "the accomplishment thereof should proceed with due regard for special territorial conditions including any differences in territorial class rate levels that may justify different ratings in consideration of the effect on movements of traffic." Rather than resort to the application of any formula or averaging device, this group would have that classification rating which is applied in the territory where the article is predominantly produced considered *prima facie* reasonable for uniform application. The point also was advanced that the examiners had failed to consider suitability for movement as a test of the reasonableness of rating.

A brief representing the views of automobile and automotive manufacturers developed the contention that the proposed report should be withdrawn until after the end of the war, it being their position that, under the existing abnormal conditions, it is "ill-advised and inopportune."

Truckers Want Same Classes—Exceptions to the examiners' proposals filed by the motor carriers who were parties to the proceeding developed the theme that, granting that a uniform classification is necessary, the recommendations amount to a "hodgepodge" that would be "worse than continuation of the present three classifications." In their view, the examiners' have proposed a "mere arithmetical compromise" between existing classification and exception ratings. But whatever may be the commission's ultimate conclusion as to these recommendations, the motor carriers asserted, any prescribed uniform classification should be prescribed "concurrently" for both rail and motor carriers.

Sympathy for the general principle of uniform classification was expressed in several briefs, while at the same time particular phases of the examiners' proposals were criticized on various grounds. The Kentucky Railroad Commission would prescribe a further simplified classification, to include not more than 16 classes, and would set up separate base classes for carload and l.c.l. traffic. The Nebraska State Railway Commission would include a provision that any exception approved after adoption of a uniform classification should conform to the classification groupings prescribed. The group designated as "Central Territory interests," while in favor of greater uniformity, nevertheless held to the view that differences in conditions require departures from uniformity, and stressed the note that uniformity of classification is not an end of itself, but only a means of obtaining a desirable simplicity of tariffs and the rate structure as well as proper relationships of class rates.

Jeffers Elected Chairman of Garden Committee

William M. Jeffers, president of the Union Pacific, has been elected chairman of the Industrial Advisory Garden committee of the National Victory Garden Institute. Serving with Mr. Jeffers will be 31 leaders of diversified industries and the chief purpose of the committee will be to encourage industrial concerns to co-operate in promoting the victory garden movement during spring and summer. Among the 31 members of the committee are L. W. Baldwin, chief executive officer of the Missouri Pacific; M. W. Clement, president of the Pennsylvania; Nels Kunst, president of the Pullman Railroad; and E. J. Engel, president of the Atchison, Topeka & Santa Fe. The goal for 1944 has been set at 22,000,000 victory gardens, an increase of 10 per cent over last year.

Traffic Group Elects Officers

C. E. Anderson, of the Chicago & North Western, has been elected president of the Railroad Association of Philadelphia, oldest traffic organization in the country.

Other officers for the coming year are: Vice-president, S. C. Hobbs, Pittsburgh & West Virginia; treasurer, R. E. Sigman, Baltimore & Ohio; and secretary, John J. Needham, Norfolk & Western.

Equipment on Order

Class I railroads on February 1, had 33,411 new freight cars on order, according to the Association of American Railroads. On the same date last year, they had 19,281 on order.

This year's February 1 total included 12,567 hopper, 4,430 gondolas, 1,352 flat, 10,277 plain box, 3,385 automobile, 1,200 refrigerator, and 200 stock freight cars.

They also had 863 locomotives on order on February 1, compared with 471 on the same day in 1943. The former figure included 303 steam, two electric and 558 Diesel-electric locomotives contrasted with 335 steam and 136 electric and Diesel one year earlier.

Class I roads put 2,856 freight cars in service in January compared with 1,683 in the same month last year. Those installed last month included 1,310 hopper, 474 gon-

dola, 163 flat, 123 automobile box, and 786 plain box freight cars.

They also put 92 new locomotives in service in January, of which 36 were steam, one electric and 55 Diesel-electric. New locomotives installed in January, 1943, totaled 49, of which 44 were steam and 5 were electric and Diesel-electric.

The Office of Defense Transportation reported 36 new locomotives on order on February 1, but no new locomotives installed in January by other than Class I carriers. This brings to 899 the total of new locomotives on order on February 1, by all classes of railroads.

Why the New Haven Would Like to Fly

(*Continued from page 398*)

modes of transportation—than could possibly be offered by separate un-co-ordinated competitive services."

The New Haven does not deem it necessary to operate or control an airline to accomplish this co-ordination, stated Mr. Palmer, but prefers rather to have a "part interest in it."

Advantages to the air line who ties in with the railroad, he pointed out, would be those of highway pickup and delivery in freight service, bus routes running by many proposed airport sites, a widespread private communications system, warehouse facilities, ticket selling agencies, and established passenger and freight solicitation staffs in important traffic centers throughout the United States, as well as in nearly every city and town in southern New England.

It is Mr. Palmer's hope that Congress in considering the Lea Bill, or any other affecting transportation, "will recognize the necessity for a fair and reasonable National Transportation Policy—that favors no *one* form of transportation—but considers the rights of airways, highways, waterways and railways in the transportation future of America.

Whatever the outcome of this controversy, the New Haven will "not be caught napping." Its plans for the future call for streamlined passenger cars, "pleasing to the most sophisticated tastes" and embodying the latest in comfort and convenience. Serious thought also is being given the pricing of passenger service. Mr. Palmer believes the wisdom of past practices in raising passenger fares when business declined is questionable and he pointed to the success of industries which have attracted new customers by the device of reducing prices when demand fell off.

Representation of Employees

As a result of elections, the National Mediation Board has made the following certifications of representatives of the employees indicated for the purposes of the Railway Labor Act: The Order of Railroad Telegraphers to act for towermen of the Chicago, Aurora & Elgin; the Brotherhood of Locomotive Firemen & Enginemen to act for locomotive engineers and firemen, hostlers and hostler helpers of the Youngstown & Northern; the Brotherhood of Railroad Trainmen to represent the yardmen (foremen and helpers) of the Youngstown & Northern; the Brotherhood of Maintenance of Way Employees to continue to represent the maintenance of way employees of the Belfast & Moosehead Lake; and the Railroad Yardmasters of America to act for the yardmasters of the Terminal Railroad Association of St. Louis.

Club Meetings

At the February 24 meeting of the Railway Club of Pittsburgh, at 8 p. m., in the Fort Pitt Hotel, A. J. Dawson, chief engineer, Dravo Corp., will present a paper entitled "The LST Is a Ship for Tanks." It will be illustrated by motion pictures and slides.

The Car Foremen's Association of Omaha, Council Bluffs and South Omaha Interchange will meet March 9 at 1:30 p. m., in the Burlington Station, Omaha.

The Southern and Southwestern Railway Club will meet at 10 a. m., March 16, in the Ansley Hotel Roof Garden, Atlanta, Ga. A paper on "Roller Bearings" will be presented by Paul N. Wilson, district manager, The Timken Roller Bearing Co., Canton, Ohio.

"Material Handling in Railroad Repair Shops" is the topic to be discussed by S. W. Gibbs, general sales manager, Yale & Towne Mfg. Co., at the February 21 meeting of the Northwest Locomotive Association. The meeting will start at 8 p. m. in Woodruff Hall, St. Paul.

Elected to Controllers Group

Philip D. Jonas, comptroller of the Delaware, Lackawanna and Western, William A. Benson, vice-president in charge of accounting for Railway Express Agency, and J. Howard Clark, comptroller of the United States Freight Co., all of New York, have been elected to membership in the Controllers Institute of America. The Institute is a technical and professional organization of controllers devoted to improvement of controllership procedure.

Land Grant Repealer

Representative Boren, Democrat of Oklahoma, has introduced H.R. 4184 to repeal remaining provisions of the land-grant-rate law. The bill would also relieve government agencies from the requirement of obtaining competitive bids for transportation service when the services required can be procured from any common carrier.

Big Lake Traffic Forecast

Setting a "somewhat tentative" quota of 90 million gross tons of iron ore to be handled on the Great Lakes in 1944, the Iron and Steel Industry Transportation Advisory Committee of the War Production Board met recently to consider matters bearing on the attainment of that goal. At the same time the Office of Defense Transportation was asked to relax restrictions on lake movement of coal in order to allow free movement of that commodity.

The committee found ample ship space available for the 1944 ore movement, but expressed concern over the manpower situation. It advised that "drastic action" must be taken to secure sufficient labor to assure the operation of all iron and steel boats when the navigation season opens, pointing out that ore quotas cannot be met unless all available bottoms are utilized to capacity.

On February 8 Solid Fuels Administrator Ickes disclosed that a regulation forbidding lake shipments of coal on contracts not made before March 1 had been put into effect for the purpose of stimulating conclusion of such arrangements in time to permit plans to be worked out for careful co-ordination of lake movement of coal with other movements. Unless full use is made of available vessel facilities, he explained, it will again be necessary to haul supplementary coal all-rail for long distances, thereby interfering with other essential rail transportation of coal.

The O. D. T. has estimated that the 1944 lake traffic will include some 285 million bushels of grain and 52 million tons of coal, in addition to the iron ore tonnage mentioned above, and in an effort to meet the manpower requirements of such a program a plan for the recruitment and stabilization of personnel on lake vessels has been worked out by the co-operative effort of that agency's Division of Transport Personnel, the War Manpower Commission, War and Navy Departments, Selective Service, War Shipping Administration, and other government offices, as well as lake vessel operators.

Steam Locomotive Operation Shown in N. Y. C. Film

"The Steam Locomotive," second in the sound motion picture series known as "Running the Railroad," has just been released by the New York Central. Produced by the motion picture bureau of the railroad's public relations department, this film provides the layman with a fairly complete picture of a complicated subject, picturing in 22 minutes running time, the story of the Hudson-type locomotive.

Following a sequence of main line trains in action, highlighted by the streamlined engines of the 20th Century Limited and Empire State Express, the film tells how steam is produced in the boiler, and the steam flow is traced, showing how it contributes to actual movement of the engine. The action of the automatic stoker, air brake, water scoop and other features of the modern locomotive are shown in detail. Servicing and repair operations are depicted. Final shots are taken in the cab, from the train ahead and alongside the locomotive.

The first N. Y. C. film, "The Freight Yard," which told the story of one of the country's largest classification yards, has enjoyed great popularity with both adult and schoolroom audiences. The Army and Navy developed its own prints from film negatives that they might be used for instruction of troops engaged in transportation activities, and the picture also has been shown to employee groups in many industries and, in classrooms, as a specific unit on transportation.

A third film is now in preparation. It will deal with the subject of signals and their use in modern rail transportation.

Both "The Freight Yard" and "The Steam Locomotive" are 16 mm. sound films, two reels in length. Copies have been

News Department continued on next left-hand page

Here's one good measure of LOCOMOTIVE PROGRESS!

A comparison of the locomotives of World Wars I and II gives a striking picture of the great improvement in the performance of the modern steam locomotive. From 1916 to 1942, the tractive effort of the average steam locomotive on class I railroads rose from 33,188 to 51,811 pounds, an increase of 56%. This figure is still rising. The average tractive effort of the locomotives built by Lima in the year 1943 for domestic service was 62,850 pounds.

The capacity of the steam locomotive to adapt itself to the changing requirements of the railroads, its great flexibility—both in performance and in its ability to use whatever fuel may be locally the most desirable, and its record of consistent high availability, all contribute to make it the favorite railroad motive power.

And further great advances—which we at Lima feel may confidently be expected upon the termination of present wartime restrictions—promise to continue the supremacy of the steam locomotive in the railroad field.

LIMA LOCOMOTIVE WORKS INCORPORATED, LIMA, OHIO

placed in a number of film libraries, located chiefly in New York Central territory, and a list of these libraries may be had on request by addressing Motion Picture Bureau, New York Central System, 466 Lexington avenue, New York 17, N. Y.

Gets River Money Sans Congress Okay

(*Continued from page 399*)

proposed barge canal, Major General Robins told the subcommittee that they provide also "all the information we need to build a deep water canal."

The Florida canal, estimated to cost $54,000,000, is the largest item on a $163,269,950 list of pending projects which Major General Reybold said could be got under way without "unreasonable delays due to the nonfulfillment of local co-operation requirements." With respect to these projects the general agreed with Subcommittee Chairman Snyder's (Democrat of Pennsylvania) suggestion that "they are in such a state of readiness that you could put men to work on any of them almost immediately; you could pull your blueprints out of pigeon-holes and start work in 30 or 60 days."

Water Traffic Has Declined—The new work for which the bill appropriates $3,630,000 includes work on the Missouri river from the mouth to Sioux City, Iowa, to cost $2,000,000, and work on the Mississippi between the Ohio and the Missouri to cost $1,000,000. After those amounts are spent it will cost another $9,684,000 to complete the former project, and another $5,000,000 to complete the latter.

The latest data Major General Reybold had on waterborne commerce of the country was for the calendar year 1942 when 589,900,000 tons were carried, a reduction of 63,700,000 tons below the preceding year. He asked and was granted permission to go "off the record" in answering Chairman Snyder's question as to why this drop had taken place.

Chicago Limits Ticket Fee

The City Council of Chicago, on February 9, took action to bring dealers in passenger transportation under the Brokers License Ordinance and to prohibit them from charging a higher fee than $1 for one person for a continuous trip. The action was taken following a request of Joseph B. Eastman, director of the Office of Defense Transportation, that mayors of 104 cities help combat the "black marketing" of railroad reservations with rigid laws against ticket scalping.

Hints on Fire Prevention

A comprehensive booklet, covering all phases of fire hazards and fire prevention, is being distributed to all employees by the Southern Railway. Entitled "Fire Prevention and Protection Rules," the pamphlet adopts the view that "it is easier to prevent a fire than to repair the consequent loss." Supplementing distribution of the pamphlet, insurance department inspectors will visit all railroad properties and heads of departments.

Supply Trade

C. D. Williams, a member of the law firm of Maclay, Lyeth & Williams of New York, has been appointed vice-president and general counsel in charge of the corporate and legal affairs of the **American Locomotive Company,** and **Carl A. Sundberg,** formerly assistant treasurer, has been appointed secretary of the company. Mr. Williams has represented the American Locomotive Company in various legal matters since 1930. He was graduated from the Yale Law School in 1924. He entered private practice in 1927 after a term as assistant United States attorney, and was at one time law secretary to the late chief justice William Howard Taft. He assisted the late Samuel Untermyer and Judge Irwin Untermyer in the New York Transit Commission's litigation with the Interborough Rapid Transit Company over the proposed fare increase in 1928 and was later chief assistant to Judge Samuel Seabury and A. A. Berle, then city chamberlain, during negotiations for the unification of the city's rapid transit lines. He was a member of the firm of Rumsey & Morgan from 1931 to 1938, and of Maclay, Lyeth & Williams since 1938.

C. D. Williams

Carl A. Sundberg

Mr. Sundberg was graduated from the United States Naval Academy, and served in the Navy from 1920 to 1924. He subsequently was associated with the Guaranty Trust Company of New York from 1927 to 1940. He was a member of the faculty of Columbia University from 1930 to 1941, as a lecturer on financial subjects before evening classes, and for four years, from 1936 to 1940, he was a member of a five-man national advisory committee on the curriculum for the national organization of the American Institute of Banking. He joined the American Locomotive Company in 1940, and was named assistant treasurer in 1941.

C. T. Stansfield, vice-president of the **Ellcon Company** of New York, has been elected executive vice-president and a director. Mr. Stansfield has been associated with the Ellcon Company since 1922 in engineering and sales capacities in the marine and railway departments.

C. E. Kraehn has been appointed assistant to the vice-president in charge of sales activities of the **Baldwin Locomotive Works.** Mr. Kraehn was graduated from Rensselaer Polytechnic Institute in 1918, and served as a commissioned officer in the U. S. Navy during the world war. He joined the General Electric Company, at Schenectady, N. Y., in 1919 and was transferred to the New York district office in 1922, where he served in various sales capacities until 1937. He was assigned to the company's Boston, Mass., office, from 1937 to 1942, in which latter year he was transferred to the International General Electric Company in New York. He resigned in 1943 to join the Baldwin Locomotive Works.

C. E. Kraehn

A full size wooden replica of the bridge and bow of patrol craft escort ship, PCE842 was presented to the U. S. Naval Training Station at Great Lakes, Ill., on February 10, by the **Pullman-Standard Car Manufacturing Company.** The ship, christened the U. S. S. Great Lakes, will be used in the training of quartermaster and signalman students in service school and for other specialized training for which the ship's facilities may be found useful.

S. L. Poorman, eastern manager of the **Westinghouse Air Brake Company,** whose promotion to assistant to the first

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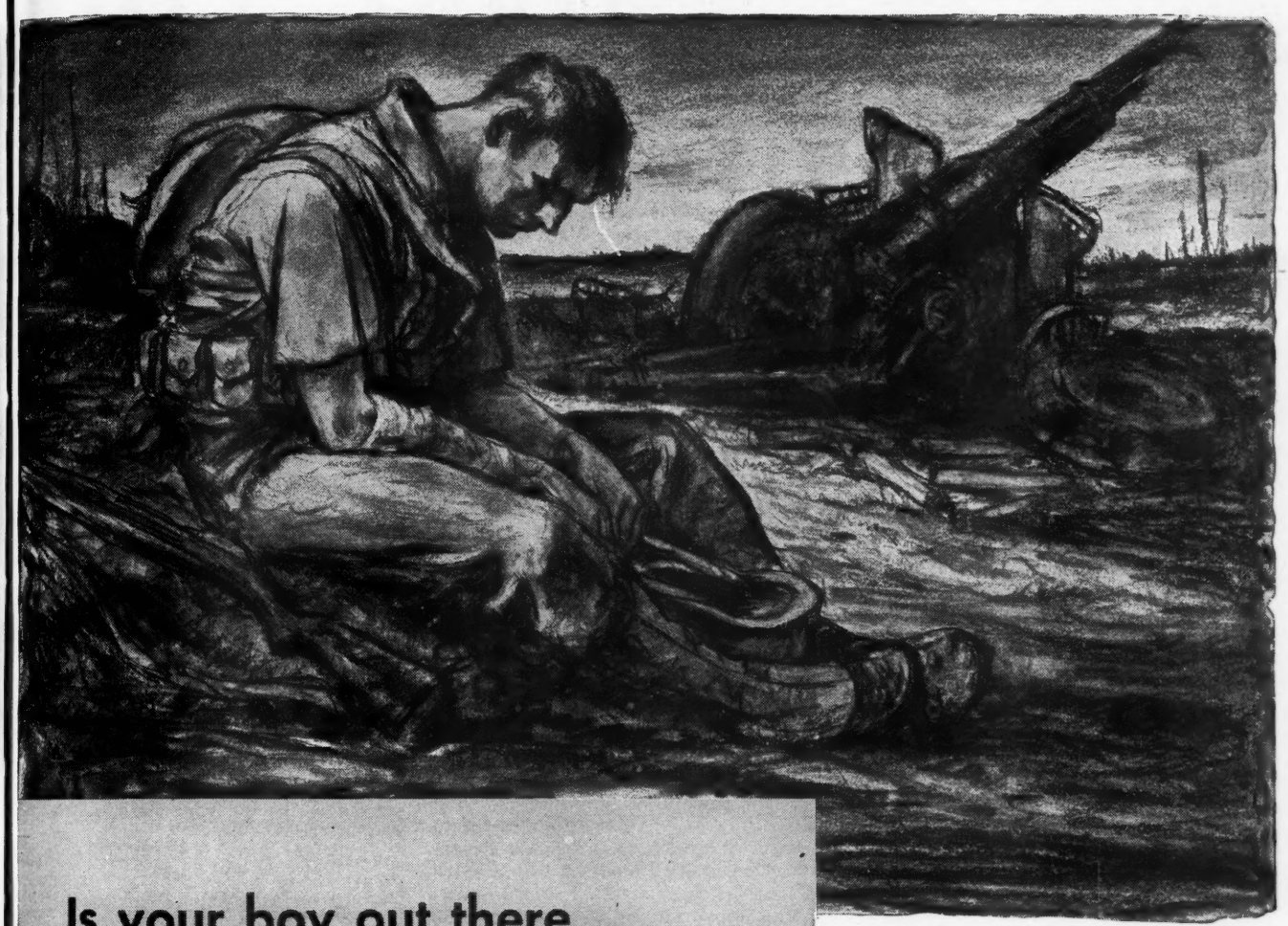

Is your boy out there . . .
in the land that God forgot?

IS he slogging along some muddy road . . . or huddled beneath a leaky tent? Do you see him now, thirsty beneath a broiling sun?

Or is your boy fighting a wintry blast in the land where winter never ends? . . . Yes, millions of people worry tonight for the men in the lands that God forgot.

But if your heart is sick with longing for some special boy . . . remember this and find comfort . . . wherever he may be, in the frozen wastes of Iceland or the jungles of New Guinea . . . you can reach out and give your boy some little comforts that speak of home.

He will get coffee, doughnuts and other American comforts when the long march is over . . . thanks to you.

He will sleep between sheets when he gets his furlough, in a town ten thousand miles from home . . . thanks to you. Even should he be a prisoner of war, he won't be condemned to live on alien bread. For every week the Red Cross will carry to him a carton of food. Yes, eleven full pounds of real American food, the kind you used to give him at your own table. And real American cigarettes and tobacco!

He will get all this . . . and more . . . straight from *your* heart through the Red Cross.

Because the Red Cross is *you*—the Greatest Mother in the World, because it represents all the mothers of America. The Red Cross is your blood and your bandages, the sweaters you knit and the gifts you pack.

And the Red Cross is your money too! This year when your Red Cross has a bigger job than ever before to do . . . this year when your Red Cross is serving your own sons in every corner of the globe . . . this year you will want to give more, more of your time, more of your work, the blood from your heart . . . and more of your money to help the work go on.

GIVE TO THE RED CROSS

So dig deep and be glad. For wherever he is

The RED CROSS is at his side
and the Red Cross is YOU!

vice-president was reported in the *Railway Age* of February 12, joined the Westinghouse Company in 1912 as an apprentice in the engineering department. During the following thirty years of his association with the company, Mr. Poorman served

S. L. Poorman

successively as mechanical engineer and representative in the southeastern district, and representative and manager in the eastern district. He was appointed eastern manager with headquarters at New York in 1938. His new headquarters will be at the company's general office in Wilmerding, Pa. **S. L. Williams,** assistant manager for the eastern district, whose appointment as manager to succeed Mr. Poorman was also reported last week, was graduated from the Massachusetts Institute of Technology with a degree in mechanical engineering. He entered the service of the Westinghouse Air Brake Company as a special apprentice in 1923 and subsequently served in the engineering and test divisions, and in the Boston, Mass., San Francisco, Calif., and New York offices until 1930, when he was

S. L. Williams

appointed district engineer of the eastern district. He was appointed assistant manager, eastern district, in 1941.

OBITUARY

Benjamin F. Affleck, who retired as president of the Universal Atlas Cement Company on September 1, 1936, died in Chicago on February 14 of a heart attack. He was born on March 1, 1869, at Belleville, Ill., and started his career at the age of 14, working for several years as a machinist, a stenographer and a clerk with various concerns. In 1896 he began as a stenographer for the Illinois Steel Company (now the Carnegie-Illinois Steel Corporation), and in 1901 became branch manager of that company's cement department at St. Louis. In 1906, when this department became a subsidiary of the United States Steel Corporation, Mr. Affleck became general sales manager. In 1915 he was elected president. He was one of the early members of the Portland Cement Association and was largely instrumental in reorganizing it in 1916, following which he served as its president for five years. Mr. Affleck has also been active in the civic life of Chicago, having served as president of the Union League Club, the Chicago Engineers Club and other organizations.

Equipment and Supplies

FREIGHT CARS

The NEW YORK, NEW HAVEN & HARTFORD has ordered 2,000 box cars of 50 tons' capacity from the Pullman-Standard Car Manufacturing Company.

THE CENTRAL OF GEORGIA is reported to have placed orders for 1,200 new freight cars, including 650 50-ton box cars and 100 50-ton hopper cars from the Pullman-Standard Car Manufacturing Company and 450 50-ton box cars from the American Car & Foundry Co.

PASSENGER CARS

The CHESAPEAKE & OHIO has purchased the all-steel business car of the late Joseph Widener, of Philadelphia, Pa., from the American Railway Equipment Company.

SIGNALING

The NEW YORK, NEW HAVEN & HARTFORD has ordered six sets of four-indication continuous code cab signal equipment for installation on electric locomotives from the Union Switch & Signal Co. This equipment is arranged for double end operation, with provision for repeating signal indications on trailing locomotives and is designed for operation in the cab signal territory on the New Haven's Hell Gate Bridge route into Pennsylvania Station, New York.

2,380,547 MEALS were served in the 29 diners of the Louisville & Nashville in 1943, and nearly half of these to men in uniform traveling as military units, according to the February issue of the L. & N. Magazine. An additional 816,230 passengers were served at their seats by waiters vending sandwiches, coffee and milk. Despite O. P. A. food rationing restrictions, the manpower shortage and the heavy travel, it now appears, that the dining car department will show a profit for the first time in its 41 years' existence.

Construction

Work Totaling $135 Million Approved in 1943

The nation's railroads received approval from the Office of Defense Transportation and the War Production Board for the construction during the year 1943 of 3,629 projects costing a total of $134,968,171, according to an O. D. T. press release of February 15.

The list of projects included signaling and centralized traffic control; bridges, trestles and culverts; main tracks, yard, passing, and other tracks; mechanical facilities (including fuel and water stations); freight and passenger station facilities; communication facilities; and miscellaneous.

The breakdown of projects by classes of work and the number and cost of each class is as follows:

Class of Work	*Number*	*Total Cost*
Signaling, including centralized traffic control	247	$24,259,833
Bridges, trestles and culverts	395	16,298,255
Main tracks	54	19,990,209
Yard, passing and other tracks	808	37,891,626
Mechanical facilities (including fuel and water stations)	912	19,480,187
Freight and passenger station facilities	223	4,581,346
Communication facilities	82	1,046,848
Miscellaneous	908	11,419,863
Total	3,629	$134,968,171

These projects, divided by regions, are set out in the following list:

Region	*Number of Projects*	*Total Cost*
Central Eastern Region	539	$25,176,234
Central Western Region	1,087	44,988,418
Great Lakes Region	299	10,002,533
New England Region	81	1,450,493
Northwestern Region	460	13,745,428
Pocahontas Region	138	8,360,192
Southern Region	399	15,898,276
Southwestern Region	165	5,383,434
Others	461	9,973,161
Total	3,629	$134,968,171

PENNSYLVANIA.—This road has started work on a $1,000,000 improvement project in its Bay City yard, southwest of Sandusky, Ohio, to increase facilities for the transfer of coal from rail to ship. The work will include enlarging the capacity of the Pennsylvania dock's three supporting yards from a total of 7,800 cars to approximately 9,700 cars, construction of a new track for trains returning empty cars, relocating the main track eastward and construction of four additional long yard tracks and six additional shorter yard tracks to increase the capacity of the classification yard nearly 800 cars, and the construction of 18 new tracks, with a total capacity of 800 cars, in the storage yard with necessary connections.

ATLANTIC COAST LINE.—This railroad has authorized the construction of 2.11 miles of second track from Appomattox River to Collier, Va., at a probable cost of $222,000.

CHESAPEAKE & OHIO.—Division 4 of the Interstate Commerce Commission has authorized this road to build, at a cost of about $463,000, a 4-mile spur to connect its so-called Hominy Creek subdivision with an undeveloped coal area in Greenbrier

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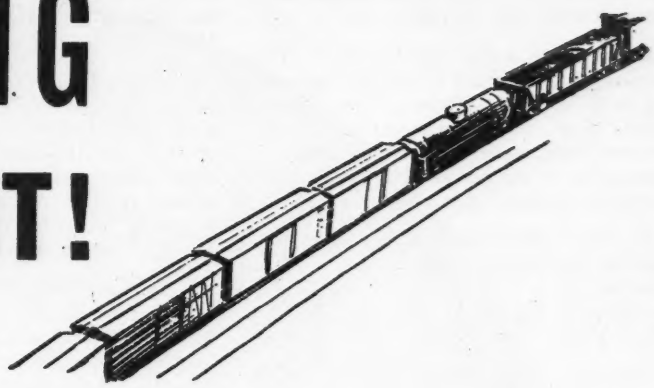
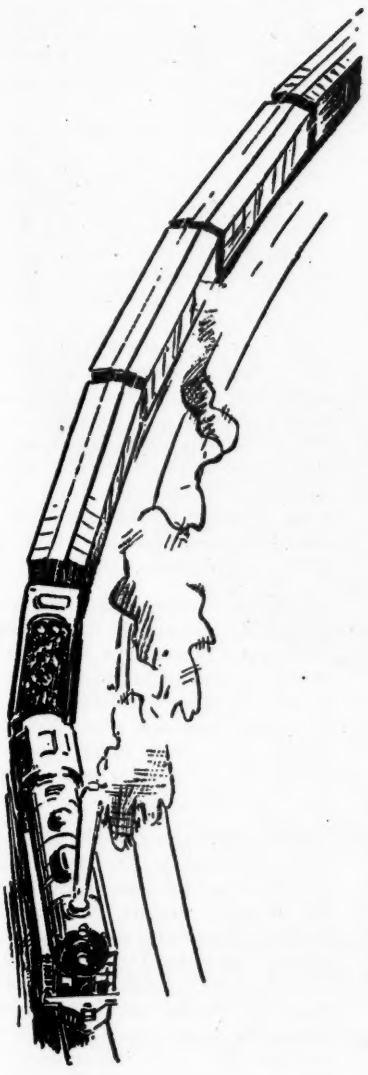
FUEL SAVING AN ARCH HABIT!



Over 33 years ago railroad men satisfied themselves as to the fuel saving of the locomotive Arch.

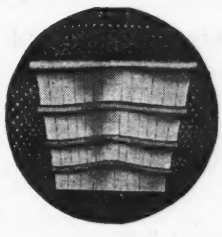
Since then the increase in locomotive power, higher rates of combustion and the widespread use of stokers has increased the fuel savings attributable to the Arch.

Today, when conservation of fuel is so vitally important to our war effort, don't handicap the effectiveness of the Arch by skimping on Arch brick. When your locomotives leave the roundhouse, be sure they are equipped with a *complete* Arch.



HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

County, W. Va., such construction to be completed by July 1, 1945.

DENVER & RIO GRANDE WESTERN.—This company has awarded a contract, amounting to $674,763, to Winston Bros., Minneapolis, Minn., for the construction of a new concrete-lined tunnel at Tennessee Pass. A description of the proposed tunnel was reported in *Railway Age* of January 8.

READING.—This railroad has awarded a contract for repairs to pier No. 2, at Port Reading, N. J., at estimated cost of $75,300, to Spearin, Preston & Burrows, Inc., of New York.

SPOKANE, PORTLAND & SEATTLE.—This road has awarded a contract, amounting to $30,000, to the George H. Buckler Company, Portland, Ore., for the construction of an extension to the office portion of the road's West freight house at Portland. The extension will be 20 ft. in width and 143 ft. in length.

SPOKANE, PORTLAND & SEATTLE.—This road has awarded a contract, amounting to $35,000, to E. F. Balgemann, Portland, Ore., for the construction of a 25-room hotel for employees at Vancouver, Wash. The hotel, which will include a restaurant, will have an area of approximately 3,800 sq. ft. and will be one story in height.

Financial

ALTON.—*Diesel Locomotive Purchase.*—On February 15, the United States district court at Chicago authorized the Alton to purchase ten Diesel-electric switching locomotives from the American Locomotive Company for $785,000. The railroad will pay $15,700 on each locomotive, and will apply to the Interstate Commerce Commission for permission to execute promissory notes on the balance.

CANADIAN PACIFIC.—*Resumes Common Dividends.*—Canadian Pacific directors on February 14 resumed dividends on the railroad's common stock for the first time since April 1, 1932, with a declaration of 50 cents per share payable March 31.

CHICAGO & NORTH WESTERN.—*Reorganization.*—The reorganization managers for this road, acting with court approval, have applied to the Interstate Commerce Commission for authority to proceed to execute the plan of reorganization approved by the commission, and in connection therewith to issue new securities, to exchange securities of the new company for those of the old, and to enter into arrangements for the satisfaction of the claim of the Reconstruction Finance Corporation.

DELAWARE, LACKAWANNA & WESTERN.—*Acquisition of Valley.*—This road has applied to the Interstate Commerce Commission for authority to acquire control of the Valley through purchase of stock; and, subsequent to the acquisition of such stock, to purchase the properties and assets of that road. The applicant now operates the Valley under lease; and it proposes to buy Valley stock in the hands of the public at $79 per share, provided holders of not less than 6,234 shares accept the offer by March 1.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—*Reorganization.* — The Federal District Court at Chicago has set March 15 as the deadline for filing objections to the Interstate Commerce Commission's plan of reorganization of the Chicago, Indianapolis & Louisville and has named April 20 as the date for hearing objections.

NEW YORK, NEW HAVEN & HARTFORD.—*Reorganization.*—In a fifth supplemental report in the proceedings out of which developed the plan for this road's reorganization, the Interstate Commerce Commission has given its approval to modification of the plant to bring it generally into uniformity with the views of the court as to certain requirements, among others those outlined in this column in the issue of December 25, 1943, page 1022.

Included in these modifications is a provision for distribution on a different basis of new securities among certain creditors not previously awarded the full amount of their claims in fixed-interest bonds, that is, the relationship of the principal amount of each type of such security originally allotted to each class of creditors, rather than the basis formerly proposed by the commission, which was the relative amount of the claims. This provision does not affect the totals of new securities approved. A provision for the adjustment of the amount of new securities to be issued in connection with the acquisition of the Old Colony, designed to give effect to more recent revenue data, does, however, allow for an increase in the new company's over-all capitalization to include the corrected amount of new securities to be issued in connection with this acquisition.

ST. JOHNSBURY & LAKE CHAMPLAIN.—*Promissory Notes.*—Authority given this road by an order of the Interstate Commerce Commission of January 23, 1928, to issue $300,000 of promissory notes in evidence of a loan made by the state of Vermont has been modified by Division 4, at the road's request, to limit the amount to $195,000.

SEABOARD AIR LINE.—*Bond Purchase Offer.*—On February 10, reorganization committee of the Seaboard Air Line offered to purchase $1,332,000, principal amount, of the first and refunding mortgage 6 per cent bonds of the Georgia, Florida & Alabama at $750 flat for each $1,000 bond. There are $1,750,000 of these bonds outstanding.

Average Prices Stocks and Bonds

	Feb. 15	Last week	Last year
Average price of 20 representative railway stocks..	39.75	37.99	30.74
Average price of 20 representative railway bonds..	86.34	84.96	71.84

Dividends Declared

Canadian Pacific.—50c, payable March 31 to holders of record March 1.

Chesapeake & Ohio.—75c, payable April 1 to holders of record March 8.

North Pennsylvania.—$1.00, payable March 10 to holders of record March 3.

Pittsburgh, Youngstown & Ashtabula.—7% preferred, $1.75, quarterly, payable March 1 to holders of record February 21.

Virginian.—62½c, quarterly, payable March 23 to holders of record March 13.

Abandonments

DENVER & RIO GRANDE WESTERN.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its branch from Leadville, Colo., to Ibex, 6.73 miles.

GULF, MOBILE & OHIO.—This road has applied to the Interstate Commerce Commission for authority to abandon its 11.83-mi. Blockton branch between Eoline, Ala., and T. C. I. Junction. The application also seeks authority to abandon operation over 0.88 mi. of Tennessee Coal, Iron & Railroad Company tracks between T. C. I. Junction and Blockton and "certain terminal tracks of the Woodstock & Blockton at Blockton."

JACKSONVILLE, GAINESVILLE & GULF.—In a proposed report, Examiner Paul C. Albus has recommended that the Interstate Commerce Commission authorize abandonment of this road, a subsidiary of the Seaboard Air Lines now operating for Russell M. Van Kirk under court order the railroad which it formerly owned, and which was purchased by him in a foreclosure sale. The entire line from Gainesville, Fla., to Superior, about 33 miles, would be abandoned, but sale of certain trackage within the limits of Gainesville at salvage value or better would be approved, in which connection the examiner noted that the Atlantic Coast Line had agreed to purchase this segment of track at a price proposed by the owner. The examiner further recommended that the commission dismiss that part of the application which referred to abandonment of a segment of track from Superior to Emathla, about 3 miles, since this had been abandoned and dismantled in 1939 without permission from any public authority.

LEHIGH VALLEY.—This road and its subsidiary, the Loyalsock, have applied to the Interstate Commerce Commission for authority for the former to abandon operation of, and the latter to abandon, two segments of branch line, one from Noxen, Pa., to Splash Dam, 9.74 miles, and one from Lopez, Pa., to a point near Bernice Junction, 3.44 miles.

MISSOURI PACIFIC.—The Interstate Commerce Commission, Division 4, has authorized this road to abandon its 42-mi. branch line between Sedalia, Mo., and Warsaw. Protestants included the War Food Administration and the Department of Agriculture, but the commission rejected suggestions that the line be given a further trial, saying the record was "conclusive that in the past few years this railroad has been abandoned by the people who formerly utilized its services." In authorizing the abandonment, the commission followed its usual practice in reserving judgment for three years to consider the question of whether conditions should be imposed "for the protection of employees who may be adversely affected."

ST. LOUIS & TROY.—The Interstate Commerce Commission, Division 4, has authorized this road to abandon its entire line extending from Troy, Mo., to Moscow Junction, 5.2 mi.

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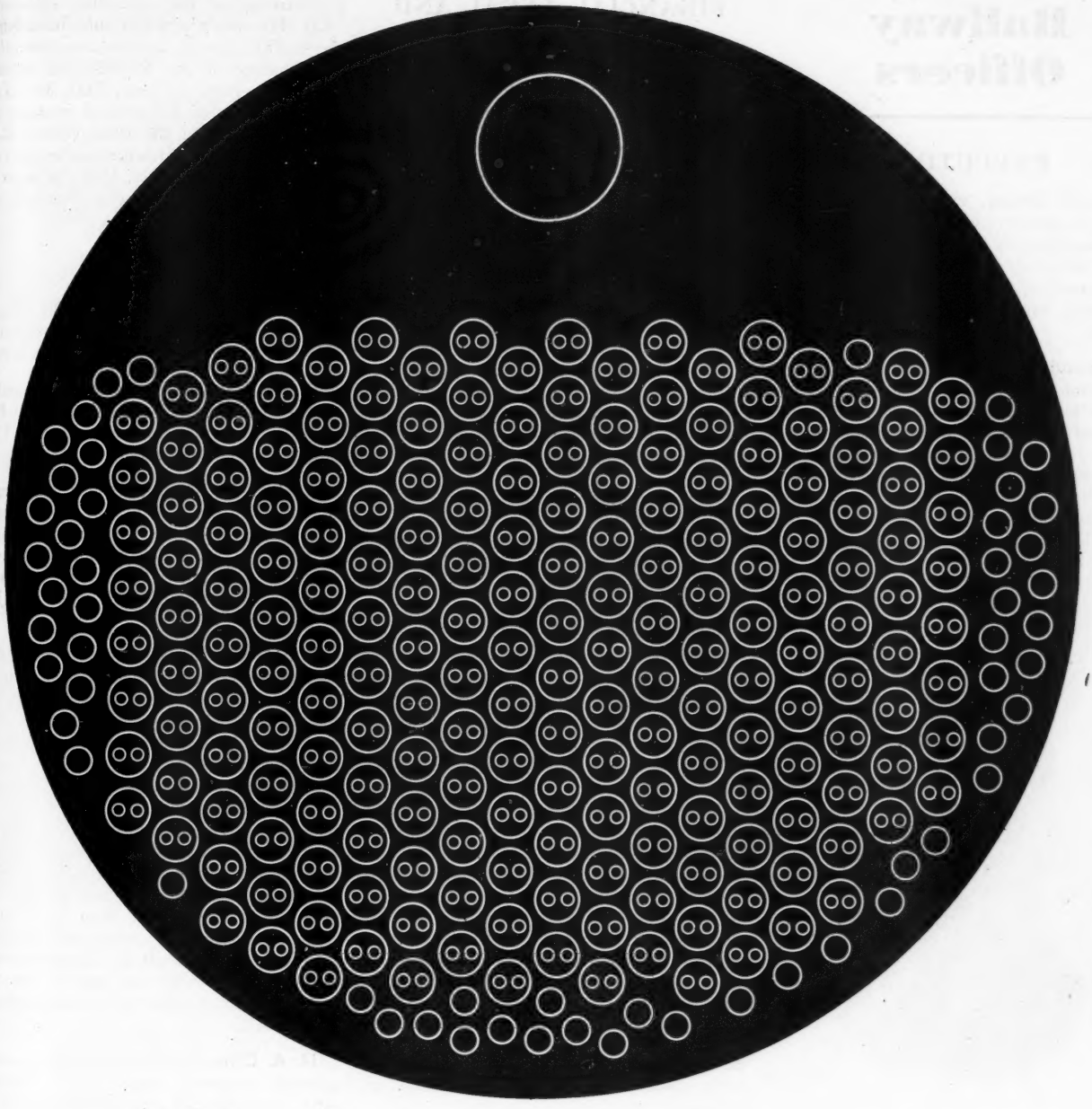

For *Maximum* Boiler Horsepower

Small flues with single loop superheater units provide the greatest evaporating and superheating surfaces, within a given diameter boiler.

Maximum boiler horsepower is essential to sustained and economical locomotive operation.

A-1635

THE SUPERHEATER COMPANY

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

Representative of
AMERICAN THROTTLE COMPANY, INC.
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Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

Railway Officers

EXECUTIVE

John P. Gregg, executive representative of the president of the Tremont & Gulf, with headquarters at Chicago, has been elected president, with the same headquarters, succeeding **J. S. Joyce,** whose death on January 3 is reported elsewhere in these columns.

Raymond F. Welsh, secretary of the Association of Western Railways, with headquarters at Chicago, has been promoted to executive secretary, with the same headquarters, succeeding **Edward Murrin,** whose death on December 19 was reported in the *Railway Age* of December 25. Mr. Welsh was born at Eagle Grove, Iowa, on November 28, 1893, and entered railway service on March 1, 1912, as a call boy on the Chicago & North Western, later serving successively as yard clerk and timekeeper until 1916 when he was promoted to assistant construction accountant of the

Raymond F. Welsh

Ashland division. Later he served as chief timekeeper and labor accountant, with headquarters at Chicago, and in 1919 he was advanced to division accountant of the Southern Illinois division, with headquarters at South Pekin, Ill., being transferred to the Eastern division, with headquarters at Norfolk, Neb., in 1920. In the same year Mr. Welsh was appointed examiner of the Association of Western Railways, with headquarters at Chicago, and in 1936 he was promoted to chief examiner. On April 1, 1939, he was advanced to the position he held at the time of his new appointment, effective February 1.

H. B. Lautz, general manager of the Eastern Lines of the Atchison, Topeka & Santa Fe, with headquarters at Topeka, Kan., has been promoted to acting vice-president in charge of operation, with headquarters at Chicago, succeeding **George H. Minchin,** who has been granted leave of absence because of illness. Mr. Lautz will continue as general manager of the Eastern Lines.

FINANCIAL, LEGAL AND ACCOUNTING

J. A. Dundas, assistant to the vice-president of finance, Canadian Pacific, has been appointed treasurer of the company.

Arthur Van Meter, assistant general solicitor of the Pennsylvania, with headquarters at Pittsburgh, Pa., has been transferred to Chicago, replacing **E. A. Kaier,** whose appointment as assistant general counsel was announced in the *Railway Age* of February 5.

OPERATING

W. J. Meyer, who retired January 1 at Chicago as assistant superintendent of the Chicago, Burlington & Quincy, has joined the Central of New Jersey as assistant to the general manager.

H. H. Gudger, division engineer of the Missouri-Memphis divisions of the Missouri Pacific, has been promoted to assistant superintendent of the Memphis division, with headquarters at Wynne, Ark., succeeding R. M. Smith, whose appointment as division engineer at Wichita, Kan., is reported elsewhere in these columns.

Horace W. Waters, assistant trainmaster of the Macon division, Central of Georgia, has been appointed trainmaster of the division. **C. P. LeSueur** also continues as trainmaster of the Macon division.

M. F. Self has been appointed terminal trainmaster of the Southern, with headquarters at Cincinnati, Ohio, succeeding **I. L. Pratt,** who has been appointed trainmaster, with headquarters at Oakdale, Tenn.

Lloyd M. Caldwell, assistant superintendent of the Southern at Atlanta, Ga., has been appointed superintendent dining cars at Chattanooga, Tenn. He succeeds **Frederick G. Thomas,** who has been transferred in that same position to Atlanta, Ga. **E. L. Frapart** and **H. L. Usmiller** have been named assistant superintendents at Atlanta.

J. M. Giles, division engineer of the Wichita division of the Missouri Pacific at Wichita, Kan., has been transferred to the Missouri-Memphis divisions, with headquarters at Poplar Bluff, Mo., succeeding H. H. Gudger, whose promotion to assistant superintendent, with headquarters at Wynne, Ark., is reported elsewhere in these columns, and **R. M. Smith,** assistant superintendent at Wynne, has been appointed division engineer at Wichita, relieving Mr. Giles.

Harry Babcock, superintendent of the Washington Terminal Company at Washington, D. C., has been appointed general manager and traffic manager of the Pennsylvania-Reading Seashore, and superintendent, Atlantic division, of the Pennsylvania. Mr. Babcock succeeds **J. O. Hackenberg,** who has been granted leave of absence because of illness. Mr. Hackenberg, a native of Milton, Pa., entered the service of the Pennsylvania in 1900 as a rodman. After subsequent extended experience in the engineer corps and as supervisor and division engineer, he was advanced to superintendent of the Schuylkill division in 1920. He was afterward superintendent of the Buffalo division and became general superintendent of the Philadelphia terminal division in 1926. In June, 1933, Mr. Hackenberg was appointed general manager and traffic manager of the Pennsylvania-Reading Seashore Lines, with headquarters at Camden, N. J. In July, 1938, he was also made superintendent of the Pennsylvania's Atlantic division.

TRAFFIC

J. V. Lanigan, passenger traffic manager of the Illinois Central, with headquarters at Chicago, has retired after 38 years service.

W. H. Barnes, foreign freight agent of the Pennsylvania with headquarters at Philadelphia, Pa., has been transferred to Pittsburgh, Pa., in the same position.

Arthur G. Vogel, general coal agent of the Chicago, Burlington & Quincy at Chicago, has resigned to become manager of the coal traffic department of the Chicago, Rock Island & Pacific, with the same headquarters, succeeding **Theron O. Jennings,** who retired on January 1.

P. J. Schweibinz has been appointed assistant to freight traffic manager and industrial agent of the New York Central System, with headquarters at Pittsburgh, Pa., succeeding **H. A. B. Brown,** who has been named assistant general freight agent of the Pittsburgh & Lake Erie with headquarters at Pittsburgh, Pa. Mr. Brown replaces **J. J. Snyder,** appointed general freight agent of the Pittsburgh & Lake Erie at Pittsburgh to succeed **C. W. Sunderbrink.** Mr. Sunderbrink is now general freight agent of the New York Central System, Pittsburgh-Youngstown territory, at Pittsburgh. **Ralph D. Evans** has been appointed industrial engineer of the New York Central System with headquarters at New York.

H. A. Cline has been appointed assistant general passenger agent of the Southern with headquarters at Washington, D. C., succeeding **W. C. Spencer,** who has been named general passenger agent with the same headquarters. **R. H. Hamilton** has been appointed district passenger agent at Baltimore, Md., and **W. H. Eargle** has that post at Charleston, S. C. **C. L. Toney** and **E. F. Buzan,** district passenger agents at Columbia, S. C., and Memphis, Tenn., respectively, have been named division passenger agents, both at the same addresses as before. Mr. Eargle succeeds **R. W. Plemmons,** who has been transferred to Columbia to replace Mr. Toney. **P. L. Martin** is named special passenger agent at Augusta, Ga.

J. J. Monks, assistant freight traffic manager of New York Central System, Pittsburgh and Youngstown territory, and of the Pittsburgh & Lake Erie, has retired after 48 years of service. Mr. Monks, who was born at Rochester, N. Y., on December 19, 1873, entered railroad service in October, 1895, as clerk of the Blue Line & Canada Southern (now Michigan Central) at Rochester. After serving as clerk of the Michigan Central at Detroit, Mich., and contracting agent of the Blue Line &

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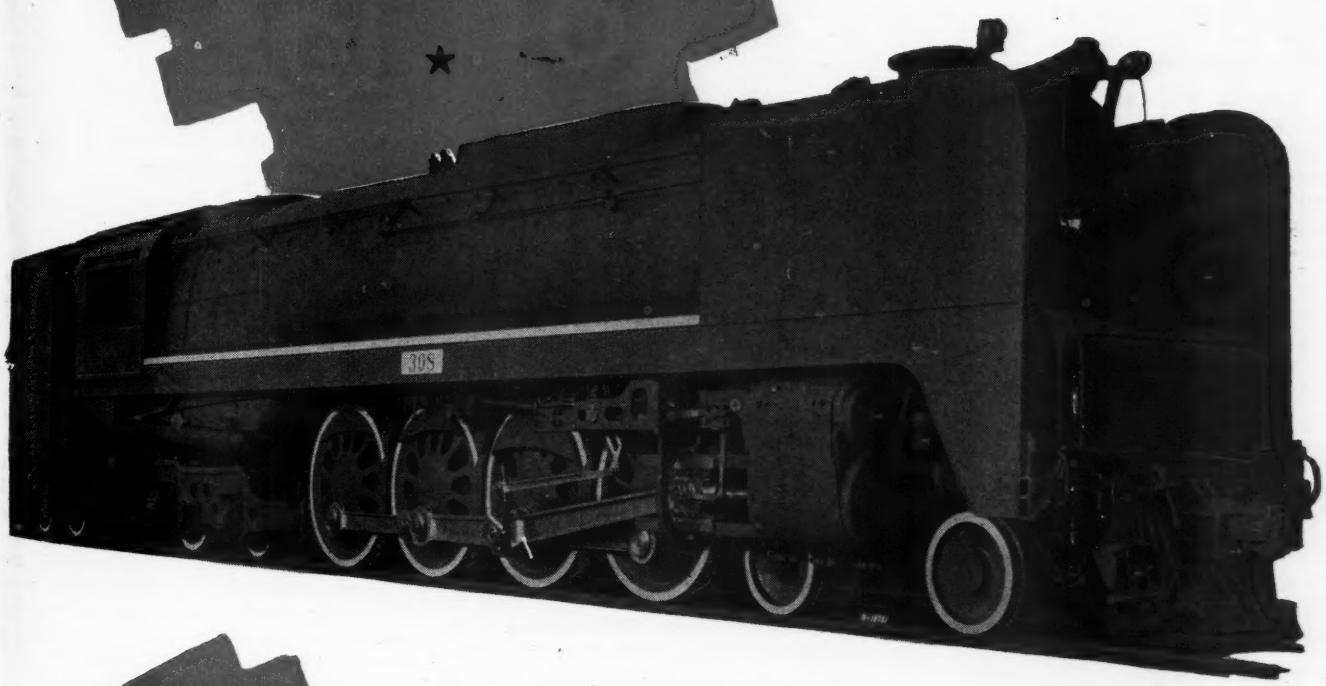
KEEPING PACE WITH THE NATION'S NEEDS



Fifteen 4-8-4's were delivered by Alco to the Delaware & Hudson in 1943. This makes a fleet of 50—fifteen 4-8-4's and thirty-five 4-6-6-4's—high-speed, high-powered, heavy tonnage locomotives which Alco has delivered to this road since July 1940.

Locomotive Characteristics

Weight on Drivers	270,000 Lb.
Weight of Engine	470,000 Lb.
Cylinders	24½ x 32 Ins.
Diameter of Drivers	75 Ins.
Boiler Pressure	285 Lb.
Tractive Power	62,040 Lb.
Tender Capacity—Water	20,000 Gals.
Tender Capacity—Fuel	25 Tons

Alco

"The D&H"

AMERICAN LOCOMOTIVE

Buy War Bonds

MANUFACTURERS OF MOBILE POWER

STEAM, DIESEL AND ELECTRIC LOCOMOTIVES, MARINE DIESELS, TANKS, GUN CARRIAGES & OTHER ORDNANCE

Canada Southern at Chicago, he became traveling freight agent of the North Shore Dispatch, and in 1904 was appointed commercial agent of the New York Central lines at Omaha, Neb. Mr. Monks was named general agent of that road in 1914, then successively filling the posts of general agent of the Pittsburgh & Lake Erie at Pittsburgh, Pa., division freight agent of the New York Central at Youngstown, Ohio, assistant general freight agent of the same road at Pittsburgh, and assistant freight traffic manager, also at that location. Named freight traffic manager of the Pittsburgh & Lake Erie in October, 1929, Mr. Monks became assistant freight traffic manager of the road in 1932, and in October, 1940, added to his duties those of assistant freight traffic manager of the Pittsburgh and Youngstown territory of the New York Central System. This position he held until his recent retirement.

Edward Burnyeat Robb, whose appointment as general freight agent of the Atlantic region, Canadian National, was announced in the *Railway Age* of February 5, was born at Moncton, N. B., and joined the service of the Canadian National as a messenger in the operating department

Edward Burnyeat Robb

in that city on December 5, 1904. The following year he was promoted to clerk, and in September, 1907, was transferred to the office of the general freight agent in the same capacity. In December, 1914, Mr. Robb was appointed traveling freight agent at Montreal, Que., and in December, 1917, he became district freight and passenger agent at Cochrane, Ont. He went to Halifax, N. S., as division freight agent in October, 1919. He was appointed special traffic representative at Halifax in January, 1941, and assistant general freight agent two years later. This position, now abolished, he held until his recent appointment to the post of general freight agent, Atlantic region, at Moncton.

ENGINEERING & SIGNALING

C. K. Scott, whose promotion to engineer maintenance of way of the Eastern district of the Erie, with headquarters at Jersey City, N. J., was reported in the *Railway Age* of February 12, was born at Kent, Ohio, in 1889, and entered railway service in 1913 as a transitman of the Erie at Huntington, Ind. He was promoted to assistant engineer one year later, with headquarters at Cleveland, Ohio, and in 1915 he was appointed section foreman at Huntington. Subsequently he was promoted to track supervisor, with headquarters at North Judson, Ind., and to assistant divi-

C. K. Scott

sion engineer, with headquarters at Meadville, Pa. A short time later Mr. Scott was advanced to division engineer, serving in that capacity at Scranton, Pa., and Youngstown, Ohio. In June, 1937, he was promoted to superintendent of the Marion division, with headquarters at Huntington, and in November, 1940, he was transferred to Salamanca, N. Y. In November, 1943, Mr. Scott was advanced to acting engineer maintenance of way, of the Eastern district, the position he held at the time of his new appointment, effective February 1.

Irwin H. Schram, whose promotion to chief engineer maintenance of way of the Erie, with headquarters at Cleveland, Ohio, was reported in the *Railway Age* of February 12, was born at Milwaukee, Wis., on October 14, 1888, and graduated in civil engineering from Armour Institute in 1908. He entered railway service in June of the

Irwin H. Schram

same year as a rodman of the Erie at Jersey City, N. J., and two years later he was promoted to assistant engineer, with headquarters at Rochester, N. Y. In 1912 he was advanced to supervisor of track with the same headquarters, and in 1913 he was appointed assistant division engineer, with headquarters at Jersey City. In 1915, Mr. Schram was promoted to division engineer of the Delaware division, being transferred one year later to the Mahoning division, with headquarters at Susquehanna, Pa. In 1918 he was appointed terminal trainmaster, with headquarters at Marion, Ohio, and two years later he was advanced to assistant superintendent, with the same headquarters. In 1921 Mr. Schram was promoted to district engineer, with headquarters at Hornell, N. Y., and in 1927 he was advanced to engineer maintenance of way, Eastern Lines, with the same headquarters. Five years later he was transferred to Jersey City, and in December, 1943, he was promoted to acting chief engineer maintenance of way, with headquarters at Cleveland, the position he held at the time of his new appointment, effective February 1.

J. I. Kirsch, assistant superintendent telegraph and signals of the Pennsylvania's eastern region, has been appointed superintendent telegraph and signals, eastern region, succeeding **C. W. Hixson,** who has been granted leave of absence.

H. Weatherby, acting power director of the Philadelphia division of the Pennsylvania, has been promoted to assistant supervisor of telegraph and signals of the Columbus division, with headquarters at Columbus, Ohio.

Blair Blowers, whose promotion to engineer maintenance of way of the Western district of the Erie, with headquarters at Youngstown, Ohio, was reported in the *Railway Age* of February 12, was born at Troupsburg, N. Y., on April 28, 1893, and graduated in civil engineering from Columbia University in 1913. He entered railway service in that year as a rodman of the Erie at Hornell, N. Y., subsequently serving as transitman, and chief of corps in the engineering and maintenance of way department at Hornell; Warren, Ohio; Susquehanna, Pa., and New York. From 1917 to 1919 he served in the U. S. Army, and returned to the Erie in the latter year as general yard foreman at Susquehanna. In 1920 Mr. Blowers was advanced to track supervisor, serving in that capacity at various points on the road until 1922 when he was appointed assistant engineer, with headquarters at Rochester, N. Y. On January 1, 1926, he was promoted to division engineer, with headquarters at Dunmore, Pa., being transferred to the Jersey City Terminal division in 1927, and to Hornell in 1929. In January, 1934, Mr. Blowers was transferred to Jersey City, N. J., and in December, 1942, he was advanced to acting engineer maintenance of way of the Western district, holding that position until his new appointment became effective on February 1.

MECHANICAL

H. R. Koonce, locomotive engineman of the Illinois Central, with headquarters at Fulton, Ky., has been promoted to division fuel engineer, with headquarters at Waterloo, Iowa, succeeding **W. F. Sherman,** who has been appointed traveling engineer, with headquarters as before at Waterloo.

F. J. Thomas, supervisor of electrical appliances and Diesel locomotives of the Indiana Harbor Belt at Gibson, Ind., has

News Department continued on next left-hand page

HSGI *Wear Resisting* PARTS

INCREASE OPERATING EFFICIENCY

PERFORMANCE records show that the resistance of HUNT-SPILLER *Air Furnace* GUN IRON to frictional wear and high superheat temperatures is one of the outstanding factors contributing to the high efficiency of modern power.

This explains the reason why the majority of modern locomotives are equipped with HSGI wear-resisting parts.

The more you demand from your power, the more you need the super-service built into HUNT-SPILLER *Air Furnace* GUN IRON.

HSGI
Reg. U. S. Trade Mark
Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings

Finished Parts
Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
Duplex Springs for Above
(Duplex Sectional Packing)
Cylinder Snap Rings
Valve Rings, All Shapes
Light Weight Valves
Cylinder Liners and Pistons
for Diesel Service

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HUNT-SPILLER *Air Furnace* GUN IRON

been appointed supervisor of Diesel locomotive maintenance of the New York Central, with headquarters at New York. This is a newly created position.

A. Walker, assistant master mechanic of the Kansas City Terminal division of the Missouri Pacific at Kansas City, Mo., has been promoted to master mechanic of the Central Kansas-Colorado division, with headquarters at Osawatomie, Kan., succeeding **L. E. Allard,** who has been appointed assistant master mechanic of the Wichita division, with headquarters at Wichita, Kan. Mr. Allard relieves **J. Walker,** who has been transferred to the Kansas City Terminal division, replacing A. Walker.

SPECIAL

William D. Beck, whose retirement on March 1 as district manager of the car division of the Association of American Railroads, with headquarters at Chicago, was reported in the *Railway Age* of February 12, was born at Chemung, Ill., on May 29, 1871, and entered railway service in 1885 as a station helper of the Chicago & North Western at Chemung. He subsequently served as telegrapher, train despatcher and station master at Chicago until 1899, when he was promoted to assistant division superintendent, with the same headquarters. From 1902 to 1909 Mr. Beck served as superintendent of several divisions of the road and in 1910 he resigned to become general manager of the Independent Pneumatic Tool Company, with headquarters at Aurora, Ill. One year later he returned to the North Western as chief clerk to the president, with headquarters at Chicago, and in 1912 he was advanced to superintendent of dining and parlor cars, being promoted to assistant to the vice-president, operations, in 1916. In 1917 he was promoted to superintendent of the Nebraska division, and three years later he was advanced to superintendent of car service, with headquarters at Chicago, holding that position until 1924 when he went with the A. A. R.

PURCHASES AND STORES

R. D. Cummings has been appointed assistant purchasing agent of the Delaware & Hudson, with headquarters at Albany, N. Y.

E. A. Workman, director of stores of New York City, has been appointed purchasing agent of the Central of New Jersey with headquarters at New York. He succeeds **W. A. Clem,** who has been serving at Philadelphia, Pa., as joint purchasing agent of the Central of New Jersey and the Reading, and who remains with the Reading.

Albert C. Card, whose promotion to assistant general purchasing agent of the Union Pacific, with headquarters at Omaha, Neb., was reported in the *Railway Age* of February 12, was born at North Bend, Neb., on August 30, 1899, and entered railway service on July 10, 1919, as a stenographer of the Union Pacific at Omaha. A short time later he was appointed material clerk of the general storekeeper's office, subsequently serving as assistant system stock book clerk and secretary of the general storekeeper, with the same headquarters. In November, 1936, Mr. Card was

Albert C. Card

transferred to the office of the general purchasing agent, being promoted a short time later to assistant to the general purchasing agent. He held that position until his new appointment, effective February 1.

OBITUARY

J. S. Joyce, president of the Tremont & Gulf, with headquarters at Chicago, died at Hot Springs, Ark., on January 3.

Brooks H. Stanage, assistant chief traffic officer of the St. Louis-San Francisco (Frisco), whose death on February 4 was reported in the *Railway Age* of February 12, was born at St. Louis, Mo., on January 22, 1880, and entered railway service in 1895 as an office boy of the general auditor's office of the Frisco at St. Louis. He served in several clerical capacities until March, 1928, when he was promoted to traffic manager, with headquarters at St. Louis. In December, 1934, Mr. Stanage was advanced to freight traffic manager, with the same headquarters, and in January, 1942, he was promoted to the position he held at the time of his death.

John Matthew Scott, secretary of the Louisville & Nashville with headquarters at Louisville, Ky., died on February 11. Mr. Scott was born at Louisville on September 7, 1891, and entered railroad service in May, 1907, as an office boy in the engineering department of the Louisville & Nashville. He then filled successively the posts of file clerk, correspondence clerk, stenographer and secretary to the president. In 1914 Mr. Scott became secretary to the president of the Nashville, Chattanooga & St. Louis at Nashville, Tenn., and in 1919 was named to that position on the Louisville & Nashville. Mr. Scott was appointed chief clerk, executive department, in 1927, becoming secretary of the road three years later. He was serving in this capacity at the time of his death.

Harry Carlisle Young, purchasing agent of the Delaware & Hudson, died on February 15 after a brief illness. He was 63 years old. Mr. Scott, who was born at Guilderland, N. Y., on August 28, 1880, entered railway service with the Delaware & Hudson as junior clerk in December, 1901. After serving in the capacity of assistant chief clerk and chief clerk, he was named assistant to purchasing agent in January, 1930. Three years later he was promoted to assistant purchasing agent, and became acting purchasing agent in August, 1938. Mr. Young was appointed purchasing agent of the Delaware & Hudson in February, 1939, and continued in that position until his death.

Louis J. Owens, assistant engineer of the Chicago, Burlington & Quincy, with headquarters at Chicago, died in a hospital in that city on February 13.

Frank Ringer, chief engineer of the Missouri-Kansas-Texas, with headquarters at St. Louis, Mo., died at a hospital in that city on February 6, at the age of 74. Mr. Ringer was born at Paola, Kan., on August 17, 1869, and graduated in civil engineering from Kansas State University in 1893. He entered railway service with the Missouri, Kansas & Texas (now the M-K-T), in June, 1894, with which road he remained up to the time of his death. In May, 1895, he became office engineer in the office of the chief engineer, with headquarters at Dallas, Tex., and from 1902 to 1905 he was assistant engineer in charge of surveys for revisions of line and grade, with the same headquarters. In the latter year he was promoted to resident engineer maintenance of way, with headquarters at Parsons, Kan., and one year later he was advanced to principal assistant engineer in charge of revisions of line and grade, with the same headquarters. In 1911 he was promoted to assistant chief engineer, with headquarters at St. Louis, and in 1912 he was advanced to engineer maintenance of way at Parsons. In March, 1913, Mr. Ringer was appointed superintendent of transportation and maintenance of way, with headquarters at Muskogee, Okla., and in October, 1914, he was reappointed engineer maintenance of way, with headquarters at Parsons. In June, 1917, he was promoted to the position he held at the time of his death. At one time Mr. Ringer served as chairman of a joint committee on Grade Crossing Protection of the A. A. R. He was a past director of the A. R. E. A.

Frank Ringer

Table of Freight Operating Statistics appears on next left-hand page

LESS WEIGHT

LONGER LIFE

Railroads interested in a regular equipment-repair program should weigh the value of Schaefer equipment in the light of its sound structure and its longer service life.

Moving more tons of war materials more miles in less time is the task of American Railroads today —and Schaefer Forged Steel Foundation Brake Gear Appliances, standard on most lines, are helping in its accomplishment.

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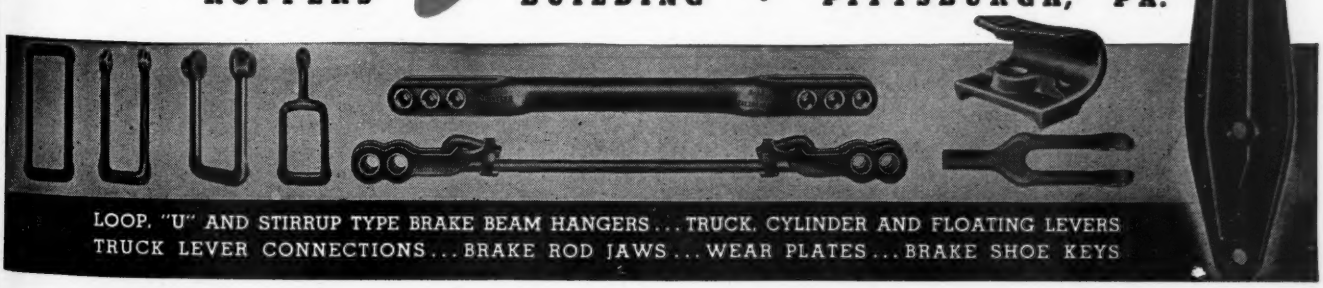

LOOP, "U" AND STIRRUP TYPE BRAKE BEAM HANGERS... TRUCK, CYLINDER AND FLOATING LEVERS
TRUCK LEVER CONNECTIONS... BRAKE ROD JAWS... WEAR PLATES... BRAKE SHOE KEYS

Freight Operating Statistics of Large Steam Railways—

Region, road, and year	Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross excl. locos. & tenders	Ton-miles (*thousands*): Net-rev. and non-rev.	Road locos. on line: Serviceable: Unstored	Road locos. on line: Serviceable: Stored	Road locos. on line: B. O.	Road locos. on line: Per cent B. O.
New England Region:												
Boston & Albany	1943	362	158,193	189,258	28,269	3,766	59.7	251,324	99,552	74	..	14	15.9
	1942	362	173,708	210,615	40,892	4,418	58.7	313,882	132,699	67	2	25	26.6
Boston & Maine	1943	1,807	402,228	469,684	51,855	14,356	65.8	936,417	398,136	152	..	22	12.6
	1942	1,830	397,402	463,823	52,584	12,986	62.5	898,578	394,758	156	..	20	11.4
N. Y., New H. & Hartf.†	1943	1,815	514,460	610,826	58,385	19,457	69.1	1,184,920	522,511	238	1	34	17.7
	1942	1,816	477,533	603,162	55,337	16,667	65.2	1,080,456	478,093	230	4	34	18.1
Great Lakes Region:												
Delaware & Hudson	1943	848	294,053	357,760	29,968	12,288	68.9	838,609	433,237	137	47	34	15.6
	1942	849	329,281	408,262	42,729	12,550	63.8	926,084	480,957	162	32	14	14.9
Del., Lack. & Western	1943	971	371,018	448,310	78,226	16,649	69.6	1,085,396	511,907	148	20	36	17.6
	1942	982	348,898	411,545	59,078	14,776	65.7	1,007,356	475,266	130	24	34	18.1
Erie	1943	2,244	1,030,112	1,117,505	97,790	47,769	66.7	3,121,960	1,402,449	317	1	80	20.1
	1942	2,243	891,555	950,531	59,396	39,017	65.0	2,641,820	1,165,928	293	19	81	20.6
Grand Trunk Western	1943	1,026	267,815	279,231	2,305	8,016	69.3	518,139	239,239	68	2	15	17.6
	1942	1,026	244,043	248,269	1,662	7,130	63.8	479,217	207,919	66	5	10	12.3
Lehigh Valley	1943	1,248	508,857	566,421	96,584	21,184	60.6	1,510,192	703,449	151	..	16	9.6
	1942	1,248	476,956	527,874	89,871	19,116	62.2	1,370,551	659,845	146	..	11	7.0
New York Central	1943	10,326	3,780,802	4,069,531	255,733	141,505	62.6	9,873,674	4,534,689	1,209	9	206	14.5
	1942	10,470	3,538,739	3,863,164	248,335	129,553	58.7	9,583,684	4,397,650	1,176	8	208	14.9
New York, Chi. & St. L.	1943	1,657	829,584	845,725	10,602	31,783	68.3	2,061,514	947,164	157	..	18	10.3
	1942	1,657	829,148	839,341	10,323	30,138	61.7	2,116,834	952,180	160	..	19	10.6
Pere Marquette	1943	1,949	441,252	459,602	12,312	14,203	67.5	945,524	449,273	134	1	30	18.2
	1942	2,016	402,228	409,123	9,172	11,842	63.0	839,762	391,715	140	1	21	13.0
Pitts. & Lake Erie	1943	230	84,031	88,620	188	3,476	65.4	298,252	177,600	38	3	9	18.0
	1942	233	94,049	98,316	150	3,807	60.9	340,142	198,220	40	8	9	15.8
Wabash	1943	2,381	725,798	746,736	17,437	27,204	72.1	1,727,366	813,205	180	5	38	17.0
	1942	2,381	799,629	825,774	17,670	27,659	63.4	1,902,208	859,687	186	7	31	13.8
Central Eastern Region:												
Baltimore & Ohio	1943	6,111	2,463,825	3,066,597	350,653	85,271	64.7	6,071,989	3,006,196	939	..	189	16.8
	1942	6,209	2,404,324	2,989,624	341,500	76,787	59.3	5,773,446	2,743,713	910	5	218	19.2
Central of New Jersey†	1943	655	235,230	272,317	61,081	8,021	62.3	569,093	279,958	133	8	15	9.6
	1942	659	249,462	286,532	54,411	7,914	59.7	589,463	305,255	116	18	22	14.1
Chicago & Eastern Ill.	1943	912	325,875	337,683	12,600	9,892	61.2	695,917	318,585	78	..	7	8.2
	1942	913	195,388	199,433	5,645	5,640	62.4	396,612	185,007	58	..	12	17.1
Elgin, Joliet & Eastern	1943	392	125,833	128,850	2,919	3,495	66.3	274,356	150,269	60	..	16	21.1
	1942	392	139,011	141,484	1,242	3,674	61.8	299,029	159,267	67	..	11	14.1
Long Island	1943	374	34,645	35,870	14,434	389	56.5	28,338	11,385	39	..	8	17.0
	1942	374	35,149	36,759	20,335	388	55.7	30,168	12,797	46	..	6	11.5
Pennsylvania System	1943	9,914	4,415,741	5,168,781	694,018	169,227	64.0	11,981,759	5,798,160	1,976	..	189	8.7
	1942	9,934	4,729,260	5,605,797	715,801	171,601	59.4	12,866,901	6,144,498	1,960	2	158	7.5
Reading	1943	1,416	535,630	603,293	80,608	16,876	65.4	1,254,230	668,623	284	12	43	12.7
	1942	1,419	590,765	660,143	84,306	18,262	61.6	1,440,904	775,124	270	12	40	12.4
Pocahontas Region:												
Chesapeake & Ohio	1943	3,207	1,027,526	1,109,585	49,238	45,608	57.2	3,903,245	2,224,434	421	1	72	14.6
	1942	3,028	1,051,014	1,126,692	54,058	46,628	54.0	4,142,476	2,273,960	414	2	90	17.8
Norfolk & Western	1943	2,132	735,564	784,320	54,946	31,502	58.9	2,722,738	1,484,165	287	17	22	6.7
	1942	2,137	802,349	851,616	63,583	33,692	55.7	3,009,229	1,604,034	316	12	17	4.9
Southern Region:												
Atlantic Coast Line	1943	4,947	1,040,902	1,054,888	15,586	28,033	62.3	1,896,864	834,097	358	9	20	5.2
	1942	4,984	969,227	994,425	13,130	25,367	62.3	1,761,784	797,165	338	11	23	6.2
Central of Georgia†	1943	1,783	329,562	339,290	6,095	7,912	71.0	514,552	243,682	94	..	12	11.3
	1942	1,783	322,784	328,425	5,302	7,388	65.9	504,265	228,645	104	..	11	9.6
Gulf, Mobile & Ohio	1943	1,962	308,579	393,722	2,397	11,329	77.0	715,315	353,605	108	2	14	11.3
	1942	1,959	374,947	472,191	4,090	12,091	66.7	822,649	393,391	115	..	8	6.5
Illinois Central (incl.	1943	6,347	1,660,378	1,676,432	30,073	63,023	64.8	4,355,952	2,063,780	606	..	80	11.7
Yazoo & Miss. Vy.)	1942	6,377	1,766,902	1,777,312	36,365	61,106	58.6	4,541,466	2,079,920	621	3	56	8.2
Louisville & Nashville	1943	4,736	1,547,156	1,685,873	41,707	38,720	64.6	2,740,805	1,394,151	422	3	56	11.6
	1942	4,736	1,562,079	1,720,571	44,750	37,956	60.3	2,859,646	1,445,176	431	1	53	10.9
Seaboard Air Line*	1943	4,167	931,995	1,102,918	17,365	26,232	68.3	1,724,544	785,885	312	..	40	11.4
	1942	4,214	929,759	1,037,207	10,095	24,269	66.7	1,649,169	767,829	290	..	28	8.8
Southern	1943	6,478	2,068,295	2,117,620	32,088	46,530	69.6	2,971,301	1,375,402	594	..	88	12.9
	1942	6,469	2,074,188	2,118,510	30,535	44,151	63.5	3,006,350	1,347,934	581	..	88	13.2
Northwestern Region:												
Chi. & North Western†	1943	8,098	1,042,352	1,090,956	26,184	33,322	68.4	2,224,640	1,082,965	378	16	111	22.0
	1942	8,122	1,022,190	1,074,440	23,405	31,778	64.1	2,193,762	985,118	349	32	105	21.6
Chicago Great Western	1943	1,445	294,851	304,369	17,048	9,643	72.6	617,962	281,630	76	..	8	9.5
	1942	1,447	269,000	274,349	6,636	7,999	66.3	537,583	233,327	74	..	11	12.9
Chi., Milw., St. P. & Pac.†	1943	10,734	1,559,827	1,673,062	79,154	52,562	70.2	3,464,446	1,682,264	544	20	68	10.8
	1942	10,813	1,487,042	1,567,804	68,852	45,340	63.3	3,190,388	1,467,892	507	38	72	11.7
Chi., St. P., Minneap. & Om.	1943	1,606	215,055	229,980	13,093	5,555	67.6	369,531	162,326	95	24	9	7.0
	1942	1,618	213,305	229,622	10,884	5,335	65.2	365,480	161,589	104	13	12	9.3
Duluth, Missabe & I. R.	1943	543	134,881	135,345	846	6,368	50.5	558,857	325,936	55	..	1	1.8
	1942	546	149,949	150,628	920	6,844	50.9	604,123	361,779	47	..	2	4.1
Great Northern	1943	8,212	1,329,454	1,333,757	53,085	47,617	66.8	3,381,959	1,648,377	409	11	53	11.2
	1942	8,022	1,197,576	1,200,576	39,689	42,337	65.7	3,072,603	1,445,431	405	23	63	12.8
Min., St. P. & S. St. M.†	1943	4,258	487,295	501,975	9,753	12,725	64.6	887,226	420,285	136	3	8	5.4
	1942	4,258	437,663	446,273	7,235	10,802	62.0	748,623	337,512	135	2	8	5.5
Northern Pacific	1943	6,572	1,009,397	1,077,104	81,400	41,364	74.2	2,756,643	1,414,500	376	15	48	10.9
	1942	6,586	960,050	1,030,730	71,422	36,605	72.1	2,454,422	1,224,599	384	18	47	10.5
Central Western Region:												
Alton†	1943	915	272,370	287,732	645	7,636	68.1	514,015	218,471	69	..	6	8.0
	1942	915	298,385	323,084	1,805	7,923	62.0	555,679	242,851	71	..	5	6.6
Atch., Top. & S. Fe (incl.	1943	13,148	3,043,878	3,271,236	209,511	106,059	67.0	7,036,727	2,943,759	819	..	114	12.2
G. C. & S. F. & P. & S.F.)	1942	13,142	3,211,129	3,499,056	207,140	98,766	61.7	7,042,872	2,773,493	820	1	100	10.9
Chi., Burl. & Quincy	1943	8,827	1,491,306	1,565,852	53,835	53,722	67.8	3,631,699	1,721,000	465	..	70	13.1
	1942	8,845	1,506,561	1,601,899	50,823	48,707	64.1	3,425,529	1,626,026	492	..	56	10.2
Chi., Rock I. & Pac.†	1943	7,718	1,261,873	1,325,389	16,205	37,051	68.2	2,442,288	1,107,560	388	..	78	16.7
	1942	7,815	1,330,329	1,408,787	19,524	36,254	66.2	2,445,608	1,078,947	379	2	94	19.8
Denver & R. G. Wn.†	1943	2,405	476,445	561,559	96,150	16,965	75.4	1,065,842	526,086	178	..	39	18.0
	1942	2,405	468,039	555,891	93,701	14,609	70.8	960,242	460,355	184	1	32	14.7
Southern Pacific—Pac. Lines	1943	8,194	2,265,833	2,588,632	408,967	96,371	71.0	6,096,785	2,640,311	800	2	140	14.9
	1942	8,290	2,206,279	2,532,361	375,182	87,350	67.4	5,844,152	2,555,330	865	6	85	8.9
Union Pacific	1943	9,798	3,175,662	3,379,563	276,438	117,401	71.6	7,449,170	3,484,687	842	..	70	7.7
	1942	9,837	2,970,874	3,137,159	223,993	103,622	68.6	6,849,510	3,103,686	831	..	72	8.0
Southwestern Region:												
Mo.-Kans.-Texas Lines	1943	3,281	795,906	821,826	14,152	21,888	61,6	1,498,389	672,286	158	..	18	10.2
	1942	3,281	822,443	864,506	13,371	22,228	61.1	1,511,909	675,225	150	..	22	12.8
Missouri Pacific†	1943	7,069	1,835,052	1,923,498	47,236	65,221	66.0	4,420,940	2,062,966	489	1	61	11.1
	1942	7,086	1,863,950	1,939,815	47,714	58,469	61.0	4,172,808	1,895,388	495	1	64	11.4
Texas & Pacific	1943	1,882	407,452	407,452	6,090	13,512	67.6	880,629	388,044	115	15	12	8.5
	1942	1,901	399,607	399,607	4,880	11,679	65.0	801,634	331,169	120	7	12	8.6
St. Louis-San Francisco†	1943	4,635	1,067,196	1,130,655	24,601	25,812	65.1	1,744,813	793,059	335	..	28	7.7
	1942	4,640	1,057,121	1,124,501	23,716	24,930	60.5	1,758,130	754,266	329	..	25	7.1
St. Louis-San Fran. & Texas	1943	159	35,207	35,884	18	542	68.3	35,595	15,639	10	..	..	..
	1942	159	34,219	36,921	28	562	64.2	37,639	15,189	10	..	..	..
St. Louis Southw. Lines†	1943	1,600	555,631	571,814	8,038	19,040	68.6	1,211,174	523,983	117	2	22	15.6
	1942	1,600	497,884	510,502	6,738	15,727	67.3	1,024,355	452,348	109	3	18	13.8
Texas & New Orleans	1943	4,339	1,234,469	1,250,053	33,495	33,660	64.4	2,294,917	1,013,152	264	..	22	7.7
	1942	4,339	1,112,242	1,122,876	29,291	29,625	62.9	2,059,469	907,474	254	..	17	6.3

Selected Items for the Month of November, 1943, Compared with November, 1942

Region, road, and year		Freight cars on line: Home	Foreign	Total	Per Cent B. O.	G.t.m. per train-hr. excl. locos. and tenders	G.t.m. per train-mi. excl. locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd. car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Coal lb. per 1000 g.t.m. inc. loco.	Mi. per loco. per day
New England Region:														
Boston & Albany	1943	356	5,583	5,939	0.3	22,677	1,597	632	26.4	568	36.0	9,167	209	91.9
	1942	400	5,435	5,835	.3	28,245	1,815	767	30.0	689	39.1	12,219	153	96.0
Boston & Maine	1943	2,276	11,171	13,447	2.5	35,704	2,339	994	27.7	1,009	55.3	7,344	95	104.0
	1942	3,098	9,490	12,588	2.0	34,302	2,267	996	30.4	979	51.5	7,191	95	105.6
N. Y., New H. & Hartf.†	1943	3,200	23,358	26,558	2.3	33,465	2,338	1,031	26.9	661	35.6	9,596	101	88.9
	1942	3,919	16,470	20,389	1.2	32,731	2,297	1,016	28.7	762	40.8	8,776	100	88.2
Great Lakes Region:														
Delaware & Hudson	1943	3,957	5,741	9,698	2.3	47,280	2,867	1,481	35.3	1,547	63.7	17,030	111	61.5
	1942	6,681	4,299	10,980	2.8	46,286	2,828	1,469	38.3	1,450	59.3	18,883	104	68.9
Del., Lack. & Western	1943	6,020	12,399	18,419	2.9	43,717	2,974	1,403	30.7	924	43.1	17,573	123	92.5
	1942	7,741	9,125	16,866	2.9	47,325	2,913	1,374	32.2	936	44.3	16,133	115	87.5
Erie	1943	10,416	27,758	38,174	2.2	50,383	3,044	1,367	29.4	1,249	63.8	20,833	97	108.6
	1942	11,861	22,739	34,600	2.4	50,789	2,978	1,314	29.9	1,122	57.7	17,327	94	92.5
Grand Trunk Western	1943	2,155	6,416	8,571	3.7	41,132	1,943	897	29.8	1,022	49.4	7,773	94	120.4
	1942	2,932	6,428	9,360	3.8	39,898	1,976	857	29.2	778	41.8	6,755	90	110.1
Lehigh Valley	1943	6,703	18,881	25,584	1.7	50,498	3,041	1,416	33.2	878	43.6	18,789	113	142.7
	1942	9,491	19,201	28,692	1.4	49,876	2,973	1,431	34.5	809	37.7	17,624	110	138.4
New York Central	1943	48,753	102,376	151,129	2.7	41,539	2,647	1,216	32.0	1,006	50.1	14,638	107	111.5
	1942	54,502	82,947	137,449	3.2	42,982	2,742	1,258	33.9	1,055	52.9	14,001	100	109.0
New York, Chi. & St. L.	1943	3,550	13,041	16,591	2.0	46,530	2,509	1,153	29.8	1,872	91.9	19,054	91	171.0
	1942	3,999	13,454	17,453	2.1	46,463	2,559	1,151	31.6	1,814	93.1	19,155	89	164.5
Pere Marquette	1943	2,708	9,766	12,474	1.8	37,449	2,184	1,038	31.6	1,214	56.9	7,684	94	100.1
	1942	4,234	7,015	11,249	3.2	35,222	2,110	984	33.1	1,133	54.4	6,477	90	93.5
Pitts. & Lake Erie	1943	4,962	9,418	14,380	3.2	47,889	3,554	2,116	51.1	454	13.6	25,739	97	66.5
	1942	4,775	7,838	12,613	4.2	48,063	3,629	2,115	52.1	546	17.2	28,358	92	63.1
Wabash	1943	5,536	11,009	16,545	2.2	45,457	2,409	1,134	29.9	1,502	69.7	11,385	112	119.1
	1942	8,393	12,897	21,290	1.0	44,448	2,411	1,090	31.1	1,296	65.7	12,035	109	129.5
Central Eastern Region:														
Baltimore & Ohio	1943	40,150	62,418	102,568	2.3	30,416	2,523	1,249	35.3	996	43.6	16,398	153	104.7
	1942	44,893	45,320	90,213	2.3	31,015	2,450	1,164	35.7	985	46.5	14,730	144	102.7
Central of New Jersey†	1943	4,325	21,933	26,258	1.8	28,638	2,451	1,206	34.9	361	16.6	14,247	143	98.2
	1942	7,955	14,730	22,685	1.0	30,389	2,406	1,246	38.6	436	19.0	15,440	136	94.4
Chicago & Eastern Ill.	1943	1,977	5,767	7,744	3.4	36,621	2,231	1,021	32.2	1,446	73.3	11,644	120	142.7
	1942	1,977	3,785	5,762	2.8	33,059	2,102	981	32.8	1,078	52.6	6,755	125	102.0
Elgin, Joliet & Eastern	1943	8,933	7,524	16,457	3.4	17,037	2,281	1,249	43.0	314	11.0	12,778	144	84.9
	1942	8,391	10,211	18,602	2.5	17,831	2,225	1,185	43.3	303	11.3	13,543	135	90.5
Long Island	1943	40	5,013	5,053	.4	6,746	837	336	29.3	76	4.6	1,015	312	50.3
	1942	21	4,177	4,198	.4	6,795	870	369	33.0	105	5.7	1,141	327	49.6
Pennsylvania System	1943	116,700	124,815	241,515	3.1	36,805	2,796	1,353	34.3	802	36.6	19,495	127	97.6
	1942	134,305	111,594	245,899	2.4	35,767	2,792	1,334	35.8	829	39.0	20,618	116	107.0
Reading	1943	11,078	25,087	36,165	1.6	28,880	2,350	1,253	39.6	631	24.4	15,740	131	79.0
	1942	17,527	19,008	36,535	3.2	30,907	2,444	1,315	42.4	714	27.3	18,208	122	87.6
Pocahontas Region:														
Chesapeake & Ohio	1943	35,772	18,097	53,869	.6	52,221	3,878	2,210	48.8	1,330	47.6	24,495	82	85.7
	1942	39,133	14,625	53,758	1.5	56,654	4,001	2,196	48.8	1,429	54.3	25,033	76	85.4
Norfolk & Western	1943	31,364	7,249	38,613	1.5	58,999	3,791	2,066	47.1	1,297	46.7	23,205	97	92.1
	1942	32,772	6,781	39,553	1.6	58,925	3,819	2,035	47.6	1,369	51.6	25,020	92	95.5
Southern Region:														
Atlantic Coast Line	1943	8,255	21,652	29,907	2.9	30,007	1,828	804	29.8	980	52.8	5,620	112	97.5
	1942	9,021	17,945	26,966	3.3	29,575	1,824	826	31.4	1,003	51.2	5,331	108	97.1
Central of Georgia†	1943	2,450	6,487	8,937	1.6	28,796	1,577	747	30.8	939	42.9	4,556	126	115.2
	1942	2,679	6,374	9,053	1.3	27,951	1,575	714	30.9	846	41.5	4,275	121	104.6
Gulf, Mobile & Ohio	1943	2,259	7,415	9,674	1.0	41,162	2,327	1,150	31.2	1,309	54.4	6,008	118	112.1
	1942	2,847	6,756	9,603	1.0	38,469	2,206	1,055	32.5	1,341	61.8	6,694	117	135.2
Illinois Central (incl.	1943	18,371	31,829	50,200	1.0	43,127	2,696	1,277	32.7	1,311	61.8	10,839	121	86.8
Yazoo & Miss. Vy.)	1942	21,003	31,968	52,971	1.1	40,343	2,612	1,196	34.0	1,293	64.9	10,872	115	92.9
Louisville & Nashville	1943	28,915	15,576	44,491	2.0	26,730	1,772	901	36.0	1,039	44.7	9,812	136	125.8
	1942	32,079	16,480	48,559	1.6	27,186	1,831	925	38.1	1,020	44.4	10,172	130	128.4
Seaboard Air Line*	1943	6,876	19,156	26,032	1.4	31,132	1,900	866	30.0	1,050	51.4	6,287	119	116.6
	1942	8,369	17,508	25,877	1.8	28,057	1,822	848	31.6	999	47.3	6,074	123	124.6
Southern	1943	16,224	29,473	45,697	2.1	24,900	1,461	676	29.6	989	48.1	7,077	151	110.4
	1942	17,779	29,070	46,849	2.0	24,389	1,466	657	30.5	976	50.4	6,946	147	112.1
Northwestern Region:														
Chi. & North Western†	1943	21,207	29,454	50,661	3.3	33,785	2,203	1,073	32.5	699	31.5	4,458	128	79.2
	1942	23,844	26,646	50,490	3.8	33,655	2,208	991	31.0	622	31.3	4,043	125	78.0
Chicago Great Western	1943	938	4,495	5,433	1.3	37,479	2,105	959	29.2	1,640	77.4	6,497	125	137.0
	1942	1,550	3,685	5,235	1.3	36,503	2,002	869	29.2	1,452	75.1	5,375	124	115.1
Chi., Milw., St. P. & Pac.†	1943	22,102	28,527	50,629	1.4	34,052	2,235	1,085	32.0	1,063	47.3	5,224	128	101.2
	1942	30,209	21,604	51,813	1.3	34,351	2,161	994	32.4	939	45.8	4,525	122	94.9
Chi., St. P., Minneap. & Om.	1943	1,072	6,989	8,061	4.9	24,532	1,757	772	29.2	636	32.2	3,369	120	66.9
	1942	1,641	6,891	8,532	4.7	24,498	1,737	768	30.3	611	30.9	3,329	113	63.7
Duluth, Missabe & I. R.	1943	15,113	290	15,403	3.0	75.135	4,269	2,490	51.2	706	27.3	20,008	73	85.2
	1942	14,770	326	15,096	2.9	66,351	4,146	2,483	52.9	812	30.2	22,087	73	108.5
Great Northern	1943	22,533	19,866	42,399	2.0	38,443	2,571	1,253	34.6	1,209	52.2	6,691	106	106.1
	1942	27,715	20,009	47,724	1.6	38,885	2,581	1,214	34.1	997	44.5	6,006	103	91.4
Min., St. P. & S. St. M.†	1943	6,505	6,346	12,851	3.6	31,899	1,854	878	33.0	1,045	49.0	3,290	97	122.2
	1942	9,432	5,228	14,660	3.6	30,207	1,718	775	31.2	779	40.2	2,642	105	105.2
Northern Pacific	1943	16,406	17,120	33,526	3.1	41,311	2,749	1,411	34.2	1,340	52.8	7,174	136	95.3
	1942	20,612	15,721	36,333	3.6	38,841	2,564	1,279	33.5	1,146	47.5	6,198	128	89.0
Central Western Region:														
Alton†	1943	877	7,053	7,930	2.4	40,621	1,909	811	28.6	914	46.9	7,959	124	135.1
	1942	913	6,963	7,876	3.5	39,421	1,874	819	30.7	1,051	55.3	8,847	125	148.7
Atch., Top. & S. Fe (incl.	1943	43,651	44,797	88,448	2.4	39,387	2,329	974	27.8	1,105	59.5	7,463	121	130.6
G. C. & S. F. & P. & S.F.)	1942	53,028	42,942	95,970	2.7	36,884	2,204	868	28.1	992	57.2	7,035	122	141.2
Chi., Burl. & Quincy	1943	15,003	27,460	42,463	1.9	38,766	2,450	1,161	32.0	1,322	60.9	6,499	108	106.1
	1942	18,885	23,300	42,185	2.5	35,922	2,293	1,088	33.4	1,247	58.3	6,128	111	107.6
Chi., Rock I. & Pac.†	1943	11,414	20,145	31,559	2.3	33,492	1,944	882	29.9	1,135	55.6	4,783	120	101.1
	1942	13,421	17,901	31,322	4.3	31,959	1,849	816	29.8	1,214	61.6	4,602	121	106.1
Denver & R. G. Wn.†	1943	8,228	9,193	17,421	2.7	30,080	2,273	1,122	31.0	971	41.5	7,292	184	104.2
	1942	8,495	11,033	19,528	2.0	25,799	2,068	991	31.5	796	35.7	6,381	186	107.0
Southern Pacific—Pac. Lines	1943	25,977	63,222	89,199	2.2	36,402	2,713	1,175	27.4	986	50.6	10,741	106	112.0
	1942	27.151	68,605	95,756	1.9	32,338	2,672	1,168	29.3	915	46.4	10,275	110	108.3
Union Pacific	1943	26,820	43,522	70,342	2.1	43,138	2,377	1,112	29.7	1,604	75.5	11,855	127	140.6
	1942	31,933	47,576	79,509	2.2	38,979	2,330	1,056	30.0	1,308	63.7	10,517	131	129.7
Southwestern Region:														
Mo.-Kans.-Texas Lines	1943	2,316	7,299	9,615	1.3	34,517	1,889	848	30.7	2,195	115.9	6,830	87	167.4
	1942	3,541	9,666	13,207	1.6	32,029	1,857	829	30.4	1,759	94.8	6,860	91	182.2
Missouri Pacific†	1943	10,319	32,249	42,568	1.2	41,420	2,420	1,129	31.6	1,601	76.6	9,728	111	126.9
	1942	11,535	38,751	50,286	1.2	33,887	2,248	1,021	32.4	1,255	63.5	8,916	113	125.9
Texas & Pacific	1943	1,778	7,056	8,834	.8	37,392	2,188	964	28.7	1,487	76.6	6,873	92	104.9
	1942	3,244	5,979	9,223	.5	34,367	2,035	841	28.4	1,181	64.1	5,807	99	104.4
St. Louis-San Francisco†	1943	7,494	11,470	18,964	2.0	31,561	1,642	746	30.7	1,371	68.6	5,703	138	110.9
	1942	10,001	12,572	22,573	2.7	30,712	1,672	717	30.3	1,142	62.4	5,419	135	113.8
St. Louis-San Fran. & Texas	1943	....	347	347	9.2	21,482	1,016	446	28.9	1,704	86.5	3,279	126	115.7
	1942	....	286	286	7.7	19,038	1,105	446	27.0	1,679	96.7	3,184	126	126.6
St. Louis Southw. Lines†	1943	1,138	7,100	8,238	.7	33,495	2,190	948	27.5	2,143	113.5	10,916	87	144.9
	1942	1,643	6,231	7,874	.9	31,771	2,069	913	28.8	1,829	94.6	9,424	85	139.1
Texas & New Orleans	1943	4,022	22,179	26,201	1.6	31,091	1,880	830	30.1	1,323	68.2	7,783	91	156.9
	1942	4,053	20,528	24,581	1.5	30,328	1,873	825	30.6	1,245	64.6	6,971	89	147.9

* Report of receivers.
† Report of trustee or trustees.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to Revision.

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